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DEPARTMENT OF THE NAVY
JUSTIFICATION OF ESTIMATES
FY 1991 BUDGET ESTIMATES



SUBMITTED TO CONGRESS JANUARY 1990

PROCUREMENT

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AIRCRAFT PROCUREMENT, NAVY

PROCUREMENT A

for release;

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Department of the Navy
Aircraft Procurement, Navy
Justification of Estimates for Fiscal Year 1991

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STATEMENT "A" per Dianne Glaister
Navy Budget Office/NCBG-2
TELECON 3/21/90 VG

The last part of the
AIRCRAFT PROCUREMENT, NAVY

For construction, procurement, production, modification and modernization of aircraft, equipment, including ordnance, spare parts, and accessories therefor; specialized equipment; expansion of public and private plants, including the land necessary therefor, and such lands and interests therein, may be acquired, and construction prosecuted thereon prior to approval of title; and procurement and installation of equipment, appliances, and machine tools in public and private plants; reserve plant and Government and contractor-owned equipment layaway, \$9,838,600,000 to remain available for obligation until September 30, 1993.

Financing

The FY 1991 budget plan of \$9,838,600,000 for the Aircraft Procurement, Navy appropriation is to be financed by new obligational authority.

Approved by [signature] 10/1/90

PK Navy

Volland

GARANT

Hafer

1506n

S E C R E T
Aircraft Procurement, Navy
Program and Financing (in Thousands of dollars) FISCAL YEAR 1987
REPORT 21 29 Jan 90
PAGE 172
TPGE 1014

Identification code		17-1506-0-1-051		Budget Plan (amounts for PROCUREMENT actions programed)		Obligations	
		1989 actual	1990 est.	1991 est.	1989 actual	1990 est.	1991 est.
Program by activities:							
Direct program:							
00.0101	Combat aircraft				72,580		
00.0201	Airlift aircraft				1,745		
00.0401	Other aircraft				12,928		
00.0501	Modification of aircraft				35,924		
00.0701	Aircraft support equipment and facilities				29,359		
00.9101	Total direct program				152,536		
01.0101	Reimbursable program				1,019		
10.0001	Total				153,555		
Financing:							
Offsetting collections from:							
11.0001	Federal funds(-)				4,717		
13.0001	Trust funds(-)				233		
14.0001	Non-Federal sources(-)				-24		
17.0001	Recovery of prior year obligations				-57,968		
21.4002	Unobligated balance available, start of year:				-137,437		
21.4003	For completion of prior year budget plans				-18,000		
21.4009	Available to finance new budget plans						
22.4001	Reprogramming from/to prior year budget plan				16,925		
22.4001	Unobligated balance transferred to other acc				132,400		
25.0001	Unobligated balance lapsing				22,525		
39.0001	Budget authority						

.PK Navy	Volland	GARANT	S E C R E T		Hafer	1506n	REPORT 21	29 Jan 90
			Aircraft Procurement, Navy		FISCAL YEAR 1988		PAGE 173	TPGE 1015
			Program and Financing (in Thousands of dollars)					

Budget Plan (amounts for PROCUREMENT actions programmed)								
Identification code	17-1506-0-1-051		1989 actual	1990 est.	1991 est.	1989 actual	1990 est.	1991 est.

Program by activities:								
Direct program:								
00.0101	Combat aircraft		474,263			227,837		
00.0301	Trainer aircraft		1,715			1,752		
00.0401	Other aircraft		11,220			93		
00.0501	Modification of aircraft		132,844			42,977		
00.0601	Aircraft spares and repair parts		67,538			55,186		
00.0701	Aircraft support equipment and facilities		54,815			18,998		
00.9101	Total direct program		742,395			346,843		
01.0101	Reimbursable program		3,843			2,392		
10.0001	Total		746,238			349,235		

Financing:								
Offsetting collections from:								
11.0001	Federal funds(-)		-2,623					
13.0001	Trust funds(-)		-41					
17.0001	Recovery of prior year obligations		-4,024					
21.4002	Unobligated balance available, start of year:							
21.4003	For completion of prior year budget plans		-1,088,786			-349,235		
22.4001	Available to finance new budget plans		-86,700					
22.4001	Unobligated balance transferred to other acc		86,700					
24.4002	Unobligated balance available, end of year:							
24.4002	For completion of prior year budget plans		349,235					
39.0001	Budget authority							

PK Navy	Volland	GARANT	S E C R E T			Hafer	1506n	REPORT 21	29 Jan 90
Aircraft Procurement, Navy					Program and Financing (in Thousands of dollars)		FISCAL YEAR 1989	PAGE 174	TPGE 1016
					Budget plan (amounts for PROCUREMENT actions programmed)		Obligations		
Identification code	17-1506-0-1-051		1989 actual	1990 est.	1991 est.	1989 actual	1990 est.	1991 est.	
Program by activities:									
Direct program:									
00.0101	Combat aircraft		5,939,076			5,246,717			306,809
00.0301	Trainer aircraft		414,029			77,950			20,665
00.0401	Other aircraft		347,632			336,230			17,382
00.0501	Modification of aircraft		951,941			731,700			83,071
00.0601	Aircraft spares and repair parts		1,140,424			1,111,263			22,888
00.0701	Aircraft support equipment and facilities		518,303			455,947			24,955
00.9101	Total direct program		9,311,405			7,959,807			465,770
01.0101	Reimbursable program		3,946			4,817			-871
10.0001	Total		9,315,351			7,964,624			465,770
Financing:									
Offsetting collections from:									
11.0001	Federal funds(-)		2,311			2,311			
13.0001	Trust funds(-)		-6,256			-6,256			
14.0001	Non-Federal sources(-)		-1			-1			
21.4002	Unobligated balance available, start of year:								-1,350,728
21.4003	For completion of prior year budget plans								-30,600
22.4001	Available to finance new budget plans								30,600
24.4002	Unobligated balance transferred to other acc								
24.4003	Unobligated balance available, end of year:								
	For completion of prior year budget plans		30,600			1,350,728			465,770
	Available to finance subsequent year budget					30,600			
39.0001	Budget authority		9,342,005			9,342,005			
Budget authority:									
40.0001	Appropriation		9,415,311			9,415,311			
40.0004	Reduction pursuant to P.L. 100-463		-15,606			-15,606			
41.0001	Transferred to other accounts(-)		-57,700			-57,700			
43.0001	Appropriation (adjusted)		9,342,005			9,342,005			

PK Navy	Volland	GARANT	S E C R E T		Hafer	1506n	REPORT 21	29 Jan 90
			Aircraft Procurement, Navy					PAGE 175
			Program and Financing (in Thousands of dollars)		FISCAL YEAR 1990			TPGE 1017

Identification code	17-1506-0-1-051	Budget plan (amounts for PROCUREMENT actions programed)		Obligations		
		1989 actual	1990 est.	1991 est.	1989 actual	1990 est.
Program by activities:						
Direct program:						
00.0101	Combat aircraft	5,871,331			4,990,629	587,128
00.0301	Trainer aircraft	108,285			92,043	10,830
00.0501	Modification of aircraft	1,540,439			1,180,162	284,492
00.0601	Aircraft spares and repair parts	1,219,605			1,164,886	82,174
00.0701	Aircraft support equipment and facilities	558,464			474,695	55,848
00.9101	Total direct program	9,298,124			7,902,415	930,472
01.0101	Reimbursable program	6,600			6,600	
10.0001	Total	9,304,724			7,909,015	930,472
Financing:						
Offsetting collections from:						
11.0001	Federal funds(-)	-6,600			-6,600	
21.4002	Unobligated balance available, start of year:					
	For completion of prior year budget plans					-1,395,709
24.4002	Unobligated balance available, end of year:					
	For completion of prior year budget plans				1,395,709	465,237
39.0001	Budget authority	9,298,124			9,298,124	
Budget authority:						
40.0001	Appropriation	9,389,266			9,389,266	
40.0005	Reduction pursuant to P.L. 101-165	-12,867			-12,867	
41.0001	Transferred to other accounts(-)	-83,000			-83,000	
42.0001	Transferred from other accounts	4,725			4,725	
43.0001	Appropriation (adjusted)	9,298,124			9,298,124	

.PK Navy	Volland	GARANT	S E C R E T		Hafer	1506n	REPORT 21	29 Jan 90
			Aircraft Procurement, Navy		FISCAL YEAR 1991			PAGE 176
			Program and Financing (in Thousands of dollars)					TPGE 1018

			Budget Plan (amounts for PROCUREMENT actions programed)				Obligations	
Identification code 17-1506-0-1-051			1989 actual	1990 est.	1991 est.	1989 actual	1990 est.	1991 est.

Program by activities:								
Direct program:								
00.0101	Combat aircraft			6,521,184				5,542,997
00.0301	Trainer aircraft			305,939				260,050
00.0501	Modification of aircraft			1,135,044				842,154
00.0601	Aircraft spares and repair parts			1,288,542				1,216,909
00.0701	Aircraft support equipment and facilities			587,891				499,710
00.9101	Total direct program			9,838,600				8,361,820
01.0101	Reimbursable program			6,600				6,600
10.0001	Total			9,845,200				8,368,420

Financing:								
Offsetting collections from:								
11.0001	Federal funds(-)			-6,600				-6,600
24.4002	Unobligated balance available, end of year:							
	For completion of prior year budget plans							1,476,780
40.0001	Budget authority (Appropriation)			9,838,600				9,838,600

PK Navy	Volland	GARANT	S E C R E T			Hafer	1506n	REPORT 21	29 Jan 90
Aircraft Procurement, Navy					SUMMARY			PAGE 177	
Program and Financing (in Thousands of dollars)								TPGE 1019	

Budget Plan (amounts for PROCUREMENT actions programed)									
Identification code	17-1506-O-1-051		1989 actual	1990 est.	1991 est.	1989 actual	1990 est.	1991 est.	

Program by activities:									
Direct program:									
00.0101	Combat aircraft		5,939,076	5,871,331	6,521,184	5,793,560	5,604,017	6,436,934	
00.0201	Airlift aircraft					1,745			
00.0301	Trainer aircraft		414,029	108,285	305,939	79,665	409,209	291,545	
00.0401	Other aircraft		347,632			360,378	4,113	7,382	
00.0501	Modification of aircraft		951,941	1,540,439	1,135,044	900,468	1,360,309	1,169,717	
00.0601	Aircraft spares and repair parts		1,140,424	1,219,605	1,288,542	1,178,801	1,226,345	1,271,971	
00.0701	Aircraft support equipment and facilities		518,303	558,464	587,891	540,121	531,094	580,513	
00.9101	Total direct program		9,311,405	9,298,124	9,838,600	8,854,738	9,135,087	9,758,062	
01.0101	Reimbursable program		3,946	6,600	6,600	9,679	8,121	6,600	
10.0001	Total		9,315,351	9,304,724	9,845,200	8,864,417	9,143,208	9,764,662	

Financing:									
Offsetting collections from:									
11.0001	Federal funds(-)		2,311	-6,600	-6,600	4,405	-6,600	-6,600	
13.0001	Trust funds(-)		-6,256			-6,064			
14.0001	Non-Federal sources(-)		-1			-25			
17.0001	Recovery of prior year obligations					-61,992			
21.4002	Unobligated balance available, start of year:					-1,226,223	-1,699,963	-1,861,479	
21.4003	For completion of prior year budget plans					-204,700	-30,600		
21.4009	Available to finance new budget plans		-204,700	-30,600		219,100	30,600		
22.4001	Reprogramming from/to prior year budget plan		-36,925	30,600					
22.4001	Unobligated balance transferred to other acc		219,100						
24.4002	Unobligated balance available, end of year:					1,699,963	1,861,479	1,942,017	
24.4003	For completion of prior year budget plans		30,600			30,600			
25.0001	Available to finance subsequent year budget		22,525			22,525			
25.0001	Unobligated balance lapsing								
39.0001	Budget authority		9,342,005	9,298,124	9,838,600	9,342,005	9,298,124	9,838,600	

Budget authority:									
40.0001	Appropriation		9,415,311	9,389,266	9,838,600	9,415,311	9,389,266	9,838,600	
40.0004	Reduction pursuant to P.L. 100-463		-15,606			-15,606			
40.0005	Reduction pursuant to P.L. 101-165			-12,867			-12,867		
41.0001	Transferred to other accounts(-)		-57,700	-83,000		-57,700	-83,000		
42.0001	Transferred from other accounts		4,725	4,725			4,725		
43.0001	Appropriation (adjusted)		9,342,005	9,298,124	9,838,600	9,342,005	9,298,124	9,838,600	

Budget Activity 1: Combat Aircraft

(In Thousands)

FY 1991 Estimate	\$6,521,184
FY 1990 Estimate	\$5,871,331
FY 1989 Actual	\$5,939,076

Purpose and Scope of Work

Navy and Marine Corps combat aircraft are procured and remanufactured under this budget activity. These aircraft include fixed-wing and rotary configurations and are grouped generally into the categories of attack, fighter, and anti-submarine warfare (ASW). In addition to these general categories, aircraft which directly support combat operations in specialized missions, such as aerial assault, command and control, search and rescue, reconnaissance, observation, electronic warfare, airborne mine countermeasures, vertical onboard delivery and early warning are also procured in this budget activity. Funds are budgeted to procure fully equipped aircraft, including engines and avionics equipment, special ground support and training equipment, and technical publications. Funds are also budgeted to remanufacture existing aircraft into new configurations.

Advance procurement funds are also included to finance long lead time effort, materials, and equipments for the following year program, as well as 'or multiyear procurement requirements for the AV-8B, SH-60B and SH-60F airframes.

Justification of Funds

Funds for procurement of nine different combat aircraft models, including one attack, one fighter, one strike fighter, one vertical take off and landing light attack, three helicopters, one electronic warfare, and one early warning type are budgeted in FY 1991. Funds are also included in this budget request for advance procurement requirements for aircraft scheduled for procurement in FY 1992 including continuation of multiyear procurements. The amounts shown below finance: (1) aircraft procurement; (2) advance procurement which is justified separately at the end of the budget activity; and (3) aircraft initial spares and repair parts which are budgeted and justified in budget activity 6.

A-12 Advanced Tactical Aircraft (Attack)

(Dollars in Millions)		
FY 1990	FY 1991	
Qty	Amt	Qty Amt
Details Classified		

The A-12 Advanced Tactical Aircraft is a medium attack aircraft which will replace the aging 1960's vintage A-6 Intruder fleet beginning in the mid-1990's. Incorporating industry's newest technologies, the A-12 will exceed the A-6 in performance and survivability.

EA-6B/Remanufacture (Electronic Warfare) PROWLER

(Dollars in Millions)			
FY 1990		FY 1991	
Qty	Amt	Qty	Amt
-	113.6	3	303.3
Procurement			
Advance Procurement	16.0		46.6
Initial Spares	18.3		22.4

The carrier-based EA-6B is an advanced electronic warfare (EW) aircraft which provides protection to Navy strike aircraft by jamming enemy radar-controlled weapons. Beginning in FY 1991 an improved version, the Advanced Capability (ADVCAP), will be initiated through a remanufacture program. Under this program older EA-6B aircraft will be stricken from the inventory, stripped down to bare airframe and then rebuilt to the the ADVCAP configuration. This process will benefit the Navy by making substantial use of the original investment in these aircraft while providing significantly improved capability. The ADVCAP configuration will feature a new receiver processor group to close frequency gaps, improve radar integration and communication countermeasures, and decrease reaction time. Other elements of ADVCAP include the upgraded J-52 P-409 engine for improved thrust, modified airfoil surfaces to improve stall margins and defensive maneuvering, and the inclusion of the Standard Attitude Heading Reference System and Global Positioning System (GPS).

The FY 1990 program of \$113.6 million funds non-recurring effort associated with start of the ADVCAP remanufacture and continuation of fleet support, ECM pod and other ancillary equipment procurements. Funding of \$303.3 million is requested in FY 1991 to remanufacture the first three ADVCAP aircraft.

Classified Program

(Dollars in Millions)			
FY 1990		FY 1991	
Qty	Amt	Qty	Amt
Details Classified			

AV-8B (V/STOL) HARRIER (MYP)

(Dollars in Millions)			
FY 1990		FY 1991	
Qty	Amt	Qty	Amt
24	419.2	24	457.3
Procurement			
Advance Procurement	29.9		-
Initial Spares	108.7		77.5

The AV-8B is an improved vectored thrust vertical/short take off and landing aircraft based on the AV-8A concept and the Pegasus II engine which has up to twice the range or payload of the older HARRIER. It combines aerodynamic improvements with a new stability augmentation system to reduce pilot workload; incorporates the Angle Rate Bombing System for increased weapon delivery accuracy; and includes the Night

Attack mission configuration that expands aircraft availability and provides a more capable and reliable light attack aircraft. The AV-8B meets the Marine Corps' requirement for a light attack aircraft which can operate from austere forward sites in direct support of ground forces. The FY 1990 program of \$419.2 million for 24 aircraft continues to build up the inventory level to support Marine air groups. \$457.3 million is requested for the third and final year of a multiyear contract in FY 1991. A total savings of \$165.5 million is expected to result from this multiyear acquisition strategy.

F-14D/Remanufacture (Fighter) TOMCAT

(Dollars in Millions)			
FY 1990		FY 1991	
Qty	Amt	Qty	Amt
24	1,326.1	12	779.9
Procurement			
Advance Procurement	82.7		126.3
Initial Spares	108.7		90.7

The F-14 is a high performance, fleet air defense/air superiority fighter. It is a two seat, variable sweep wing, supersonic, carrier-based airborne weapons system. The F-14 has visual attack and all-weather capability to deliver PHOENIX and SPARROW missiles. It also employs the M-61 gun and SIDEWINDER missile for close-in air-to-air combat. The F-14, armed with the PHOENIX missile, provides outer air battle protection for carrier battle groups.

The F-14D configuration includes the General Electric F-110 GE-400 engine, a new radar (APG-71) and upgraded avionics. The FY 1990 funding of \$1,326.1 million is for procurement of eighteen new production aircraft and six aircraft which will be remanufactured to the 'D' configuration from existing F-14A airframes. The FY 1991 request of \$779.9 million will procure twelve remanufactured F-14Ds to continue the Navy's fighter modernization program.

F/A-18 (Strike Fighter) HORNET

(Dollars in Millions)			
FY 1990		FY 1991	
Qty	Amt	Qty	Amt
66	1,775.4	66	1,894.1
Procurement			
Advance Procurement	141.4		150.8
Initial Spares	147.5		78.3

The F/A-18 Naval Strike Fighter is a twin-engine, multi-mission tactical aircraft. Designed to replace the F-4 PHANTOM and A-7 CORSAIR, the F/A-18 is employed in Navy and Marine Corps strike fighter squadrons. Two-seat versions with a Night Attack/Austere All-Weather capability are being built, as well as a version for tactical reconnaissance. The F/A-18 is missionized through selected use of external equipment to

Pages 1-2 through 1-7 of the APN Justification Book are incorrectly marked 'SECRET'. These pages originate from a larger document, which in its entirety, is in fact classified. However, the information contained in these pages is unclassified. It is recommended that the incorrect security classification be deleted from these pages. We regret any inconvenience.

accomplish specific fighter or attack missions. This commonality offers the Operational Commander more flexibility in employing his tactical aircraft in changing scenarios. The primary design missions are fighter escort and interdiction, with fleet air defense and close air support as additional roles. On attack missions the same airframe, engine, flight control, and weapon systems are used as on fighter missions, thus excellent fighter and self defense capability is retained. The FY 1990 funding of \$1,775.4 million is for procurement of 66 aircraft. FY 1991 funding of \$1,894.1 million will procure 66 aircraft to meet fleet inventory requirements.

CH/MH-53E (Helicopter) SUPER STALLION

	(Dollars in Millions)		
	FY 1990		FY 1991
	Qty	Amt	Qty Amt
Procurement	10	153.9	23 376.9
Advance Procurement		51.7	57.8
Initial Spares		24.3	24.7

FY 1990 includes funding for procurement of ten CH-53E helicopters, a shipboard compatible, heavy lift transport helicopter configured for both Marine and Navy missions. Funding is requested in the amount of \$376.9 million for procurement of 23 CH/MH-53E helicopters in FY 1991. These helicopters are required as medium lift replacement aircraft in FY 1991. Marine missions include amphibious/heliborne assault providing lift and movement of cargo and troops, and heavy lift shore operational requirements including tactical recovery of downed or damaged aircraft and equipment. Navy missions include vertical onboard delivery (VOD).

SH-60B (Anti-Submarine Warfare Helicopter) SEAHAWK (MYP)

	(Dollars in Millions)		
	FY 1990		FY 1991
	Qty	Amt	Qty Amt
Procurement	6	145.1	6 104.1
Advance Procurement		41.9	40.3
Initial Spares		18.8	23.8

The SH-60B SEAHAWK is the airborne component of the Light Airborne Multi-Purpose System (LAMPS) MK III ship/air weapon system. LAMPS MK III is a computer integrated ship/helicopter system that increases the effectiveness of combatants for Anti-Submarine Warfare (ASW). The helicopter provides a remote platform for deployment of sonobuoys and torpedoes, processing of acoustic and magnetic anomaly detection sensor information, and an elevated platform for radar and electronic warfare support measures. The ship provides sensor processing, command and control, integration of LAMPS information gained from other sensors, the landing and traversing system, visual landing aids, and maintenance and support facilities for the aircraft.

SH-60B secondary missions include anti-ship surveillance and targeting, search and rescue, vertical replenishment, medical evacuation and communications relay. The SH-60B carries a crew of three, approximately 2,000 lbs of mission avionics, and has provisions for sonobuoys and MK-46 torpedoes. A block upgrade is being incorporated in the FY 1990 production, including the Penguin missile, MK 50 torpedo compatibility, 99 Channel Sonobuoy Receiver, and GPS. \$145.1 million in FY 1990 funds the procurement of six helicopters to continue to build up fleet inventory levels. Funding of \$104.1 million is requested in FY 1991 to procure six aircraft under the first year of a four year multiyear contract. A total savings of \$25.4 million is expected from the multiyear contract.

SH-60F CV (Anti-Submarine Warfare Helicopter) (MYP)

	(Dollars in Millions)			
	FY 1990		FY 1991	
	Qty	Amt	Qty	Amt
Procurement	-	25.0	18	232.5
Advance Procurement		54.0		39.6
Initial Spares		28.1		15.9

The SH-60F CV ASW Helicopter provides carrier battle groups with inner zone ASW protection using manned helicopters with dipping sonar and an on-board sonobuoy processor. Secondary missions include search and rescue, logistic support, medical evacuation and plane guard. The ultimate users are ASW helicopter squadrons and CV class ships. The FY 1990 program of \$25.0 million procures needed support equipment and field activity engineering effort. Funds totalling \$232.5 million in FY 1991 are requested to procure 18 aircraft carrier inner zone anti-submarine warfare helicopters which are needed to replace aging carrier assets and upgrade the carrier battle groups' ASW capability.

E-2 (Early Warning) Hawkeye

	(Dollars in Millions)			
	FY 1990		FY 1991	
	Qty	Amt	Qty	Amt
Procurement	4	260.6	6	350.9
Advance Procurement		30.5		38.1
Initial Spares		50.3		22.0

The E-2C is a carrier-based airborne early warning/command and control system designed for fleet air defense. Additionally, it provides the battle group commander with a strike control and surveillance capability. The E-2C, first procured in FY 1972, has the same airframe as earlier models but is equipped with new avionics equipment, including a new radar antenna and passive detection system. This equipment provides an improved capability, including overland detection of air targets. A major feature of the system is its greatly enhanced reliability over previous models. Four E-2C aircraft at a cost of \$260.6 million are being procured in FY 1990. The FY 1991 request of \$350.9 million will procure six aircraft.

Advance Procurement

The FY 1990 budget includes \$633.1 million for advance procurement of material and effort for FY 1991 and subsequent production. The FY 1991 budget includes \$810.0 million for advance procurement to support planned FY 1992 and subsequent procurements. An itemization of the requirements follows:

(Dollars in millions) Aircraft Model	FY 1991		FY 1992	
	A/C Qty	A. P. in FY 90 Details Classified	A/C Qty	A. P. in FY 91 Details Classified
A-12	3	16.0		
EA-6B Remanufacture Classified Program	24	29.9		46.6
AV-8B (MYP)	12	82.7		
F-14D Remanufacture	66	141.4		126.3
F/A-18	23	51.7		150.8
C/MH-53	6	41.9		57.8
SH-60B (MYP)	18	54.0		40.3
SH-60F (MYP)	-	-		39.6
P-7A	6	30.5		20.5
E-2C				38.1

The advance procurement listed is required to ensure timely delivery of the planned FY 1991 and FY 1992 aircraft. The amounts budgeted for Contractor Furnished Equipment (CFE) items, engines and some major Government Furnished Equipment (GFE) items are required for long leadtime effort and material for the prime contractor and their vendors. This includes items such as castings, forgings, landing gear and production engineering requirements. For most GFE, requirements are calculated for each item of equipment, considering the planned aircraft quantity, production leadtime, and prime contractor installation leadtime (i.e., the amount of time the item is needed at the factory prior to aircraft delivery). Certain equipment, primarily avionics items, are budgeted as advance procurement to ensure meeting planned aircraft production schedules. The FY 1990 and FY 1991 advance procurement request also contains funding for economic order quantity procurements of long lead materials to support planned multiyear contracts for the AV-8B, SH-60B and SH-60F programs.

Budget Activity 2: Airlift Aircraft

	<u>(In Thousands)</u>	
FY 1991 Estimate	\$	-0-
FY 1990 Estimate	\$	-0-
FY 1989 Actual	\$	-0-

Purpose and Scope of Work

This budget activity provides for the procurement of fleet tactical support aircraft needed to fulfill the Navy's airlift support requirements.

Justification of Funds

No funds are requested in FY 1991 for procurement of aircraft in this budget activity.

Budget Activity 3: Trainer Aircraft

(In Thousands)	
FY 1991 Estimate	\$305,939
FY 1990 Estimate	\$108,285
FY 1989 Actual	\$414,029

Purpose and Scope of Work

The Naval Air Training Command needs aircraft specifically designed for aircrew training in order to provide the Navy, Marine Corps, and Coast Guard with well trained and highly skilled pilots, navigators, and aircrew. Aircraft procured under Budget Activity 3 are used to train students in basic and advanced flying techniques, navigation, instrument flying and numerous other skills required before the transition to high performance fleet aircraft.

Justification of Funds

Funds totalling \$108.3 million are included in FY 1990 for procurement of five T-44 aircraft and support for the T-45TS. \$305.9 million is requested in FY 1991 to procure 12 T-45A aircraft.

T-45TS (Trainer) GOSHAWK

	(Dollars in Millions)			
	FY 1990	FY 1991		
	Qty	Amt	Qty	Amt
Procurement	-	96.3	12	261.0
Advance Procurement	-	-	-	44.9
Spares	-	29.6	-	24.0

The T-45 Training System (T-45TS) is comprised of aircraft, simulators, academics, a training integration system (TIS), and contractor logistic support. The T-45A GOSHAWK aircraft is a derivative of the British Aerospace HAWK aircraft. The HAWK is a tandem seat aircraft powered by a single F-405 (Rolls Royce Adour turbofan engine). The T-45A is being adapted to provide the capability for carrier catapult takeoffs and arrested landings. The simulator suite includes both Instrument Flight Trainers and Operational Flight Trainers. Academics include textbook materials, classroom aids and a computer assisted instruction system. The TIS utilizes existing hardware and software to provide planning, scheduling, and tracking of training events in order to achieve required training efficiency. In FY 1990, \$96.3 million is in the program for support requirements. In FY 1991 \$305.9 million is requested for procurement of 12 aircraft and advance procurement for the following year.

T-44A (Trainer)

(Dollars in Millions)				
FY 1990		FY 1991		
Qty	Amt	Qty	Amt	Amt
5	12.0	-	-	-
Procurement				
Advance Procurement				
Spares				.1

The T-44A is a commercial FAA certified aircraft which is used by the Naval Air Training Command in the advanced multi-engine pilot training syllabus. The aircraft will be used at NAS, Corpus Christi to train student pilots for land based patrol and transport operations. Training functions include multi-engine operation, day/night familiarization, advance instrumentation, formation flight, and technical operation. The FY 1990 funding of \$12.0 million will procure five aircraft to provide sufficient attrition assets to continue pilot training at planned levels prior to initiation of a follow-on multi-engine trainer aircraft in mid to late 1990s. In addition these aircraft will supplement the inventory during a planned Service Life Extension Program for the existing T-44 inventory.

Budget Activity 4: Other Aircraft

	(In Thousands)
FY 1991 Estimate	\$ -0-
FY 1990 Estimate	\$ -0-
FY 1989 Actual	\$347,632

Purpose and Scope of Work

Aircraft other than those associated with combat, airlift, and training missions are procured under Budget Activity 4.

Justification of Funds

No funds are requested in FY 1991 for procurement of aircraft in this budget activity.

Budget Activity 5: Modification of Aircraft

(In Thousands)	
FY 1991 Estimate	\$1,135,044
FY 1990 Estimate	\$1,540,439
FY 1989 Actual	\$ 951,941

Purpose and Scope of Work

The Aircraft Modification program provides for improvements to operational capability, maintainability, reliability, and safety and/or extends the service life of Navy and Marine Corps aircraft.

Justification of Funds

In order to fulfill inventory requirements, it has become mandatory to operate many older aircraft beyond their originally programmed service life and update their weapon systems so that they remain capable of continued effective operation in new threat environments. To accomplish these two objectives, the Navy pursues service life extension and weapons modernization programs. These modifications involve complex engineering changes which require a major production effort and are often accomplished at a contractor's facility, with aircraft inducted into an assembly line for the conversion/modernization programs. A substantial portion of the funds programmed in FY 1990 and the funds requested in FY 1991 are for modifications in these categories.

The FY 1990 funds and the FY 1991 budget request also includes funds for incorporation of other modifications intended to enhance the operational capabilities of in-service aircraft, their safety-of-flight, reliability and maintainability. Only essential modifications or changes which are necessary to satisfy the most urgent operational requirements are included in this budget request. The FY 1990 program in the amount of \$1,540,439 fully funds the procurement and installation of modification equipment, as well as concurrent maintenance and repair of all FY 1990 and prior uninstalled modifications including those kits furnished under warranty. The FY 1991 request fully funds similar efforts associated with the FY 1991 modification procurements. While appropriated under a separate line item in FY 1990, the installation requirements are included in each applicable modification line item in FY 1991.

The following narrative summary highlights modification requirements by aircraft series and model.

A-3 Series Modification

\$1 million is programmed in FY 1990 and another \$.1 million is requested in FY 1991 to fund a variety of reliability and maintainability improvements. The funds are required to implement minor cost effective R&M changes to the A-3 weapon system.

A-4 Series Modification

\$6.3 million in FY 1990 is funded and \$7.4 million in FY 1991 is requested for the A-4 aircraft. The modifications planned are the TA-4J J52-P-6 Engine Safety and Readiness Improvement (\$4.4 million in FY 1990 and \$7.4 million in FY 1991) and the A-4M J52-P-408 Engine Safety & Readiness Improvement (\$1.9 million FY 1990). These modifications will improve engine availability rates.

A-6 Series Modification

A total of \$110.2 million is funded in FY 1990 and \$84.1 million is requested in FY 1991 for various A-6 modifications. The principal modification is the A-6 Block Upgrade Program. \$49.2 million is funded in FY 1990 to correct known Block I limitations and modify the composite wing, while \$.5 million is requested in FY 1991 for follow-on support.

The J52-P-8 Safety and Readiness Improvement program which substantially increases the availability of the P-8 engine programs is funded at \$20.2 million in FY 1990, and \$38.8 million is requested in FY 1991. Funds are programmed in FY 1990 (\$3.6 million) and requested in FY 1991 (\$6.8 million) for the Stand-off Air-to-Ground Weapons modification which provides enhanced Walleye II pods for the A-6E. \$3.3 million in FY 1990 is provided for the Pylon Modification program which will correct a safety of flight problem by updating wiring in A-6E wing pylons and make these pylons compatible with the composite wing.

The Cateye Night Vision Goggle (NVG) and Compatible Cockpit System will provide the A-6E with an enhanced low light ingress/egress navigation capability in response to an emergent requirement for night vision capability in the A-6. Funding in the amount of \$4.6 million is programmed in FY 1990 and \$3.5 million is requested in FY 1991 for this modification.

The AN/AAS-33A Detection and Ranging Set (DRS) is a major component of the A-6E Target Recognition Acquisition Multisensor configuration. The DRS Upgrade modification will decrease life-cycle costs and maintenance actions through the use of state-of-the-art "off-the-shelf" assemblies. \$10.4 million is funded in FY 1990 for this modification. \$2.5 million is programmed in FY 1990 for Command Eject modification. This safety improvement will allow either aircrew member to initiate sequenced ejection for an incapacitated crewman.

Finally, \$15.9 million is funded in FY 1990 and \$33.2 million is requested in FY 1991 for the A-6 Block Upgrade II program. This program includes improvements or modifications to the constant speed drive/starter, weapons control system wiring enhancements, video tape recorder, and radar beacon forward air control target data communicator.

EA-6 Series Modification

\$26.0 million is funded in FY 1990 and \$50.6 million is requested in FY 1991 for EA-6 modifications. The most significant modification planned is the ALQ-99 Pods program (\$11.6 million funded in FY 1990 and \$33.2 million requested in FY 1991). These funds will be used to procure jammer pod components peculiar to the Improved Capability (ICAP) II update.

Other modifications for the EA-6 include the Structural and Avionics Improvement modification (\$8.7 million programmed in FY 1990 and \$12.8 million requested in FY 1991) which will correct structural deficiencies identified during fatigue testing and will modify some EA-6B peculiar avionics due to poor reliability or which are impacted by modifications to common avionics components. Also planned is the J52-P-408 Safety and Readiness Improvement (\$5.7 million funded in FY 1990 and \$4.7 million requested in FY 1991), which will vastly improve the availability rate of the engine.

A-7 Series Modification

The \$.1 million programmed in FY 1990 and the \$.1 million requested in FY 1991 provide funding to implement various minor cost effective reliability and maintainability changes to the A-7 weapon system.

AV-8 Series Modification

The \$.1 million in FY 1990 is programmed to complete the Safety, Reliability, and Maintainability program which corrects deficiencies identified during operational testing. The \$.4 million requested in FY 1991 is required to implement various minor cost effective reliability and maintainability changes to the AV-8 weapon system.

F-4 Series Modification

\$.1 million funded in FY 1990 and the \$.1 million requested in FY 1991 are for the continuation of the Follow-on Structural Fatigue modification which consists of fixing known problem areas which have been identified since completion of the F-4 conversion-in-lieu-of-procurement program.

RF-4 Series Modification

All of the \$.1 million funded in FY 1990 and the \$.1 million requested in FY 1991 are required to continue the Follow-on Structural Fatigue program which consists of correcting minor structural problem areas which have been identified.

F-14 Series Modification

\$16.0 million programmed in FY 1990 and \$72.4 million requested in FY 1991 are required for F-14 modification programs. Various deficiencies identified during aircraft fatigue tests will be corrected in the Structural Improvements Program. \$4.0 million funded in FY 1990 and \$33.6 million requested in FY 1991 are required to continue this program.

Two ongoing modifications programmed within the F-14 are the MXU-611 Jettison Release program (\$2.5 million funded in FY 1990) and the FLAP/SLAT System improvement \$5.2 million and \$1.6 million funded in FY 1990 and requested in FY 1991, respectively. The MXU Jettison release modification will minimize the risk of cartridge blow out due to inadvertent firing of the MXU-611. The FLAP/SLAT System improvement will correct several deficiencies in the maneuvering FLAP/SLAT system which is experiencing unacceptably high failure rates. Funds are also programmed for the AWG-9 Radar Memory Improvement program (\$4.3 million in FY 1990) to upgrade the memory capacity for future software enhancements.

In addition, funds are requested for two programs which begin procurement in FY 1991. First, the AN/ALR-67 radar receiving set, countermeasures warning and control system is a replacement for current AN/ALR-45 and AN/ALR-50 radar and missile warning equipment. \$32.4 million is requested to provision the aircraft for this system. The hardware for this program is budgeted in the Common ECM equipment program. Secondly, the Joint Tactical Information Distribution System (JTIDS) provides line of sight, crypto-secure, jam resistant digital data and voice communications. \$4.8 million is requested for this program.

F-5 Series Modification

Funding of \$.1 million in FY 1990 and a request for \$.1 million in FY 1991 are required for the Structural Fatigue/Avionics Improvements program. This program will replace or correct known fatigue-sensitive structural components and incorporate avionics improvements such as the Structural Monitoring System and the AN/ALQ-3 System.

ES-3 Series Modification

A total of \$107.7 million programmed in FY 1990 and \$5.2 million requested in FY 1991 is required for the S-3A to ES-3A modification (Battle Group Passive Horizon Extension System (BGPHEs) Airborne Component). This modification will allow for commonality between the ES-3A Mission Avionics Suite (MAS) and the EP-3 conversion-in-lieu-of-procurement program. The ES-3 is the dedicated replacement for the vintage 1960s EA-3B aircraft.

OV-10 Series Modification

\$20.6 million programmed in FY 1990 and \$1.3 million requested in FY 1991 are required for OV-10 aircraft modifications. The principal OV-10 modification is the Block Upgrade I (A to D conversion) funded at \$19.7 million in FY 1990. This upgrade will provide OV-10D configured aircraft with a Night Observation System capability to locate enemy troops, artillery positions, and armored units during periods of low visibility and at night.

Two other modifications within the OV-10 are the AN/AAR-47 Detection System (\$.2 million funded in FY 1990 and \$.3 million requested in FY 1991) and the AN/AVR-2/APR-39 Warning Receiver (\$.8 million and \$1.0 million funded in FY 1990 and requested in FY 1991, respectively). These funds are for provisions and support only. The hardware for these programs is budgeted in the Common ECM equipment program.

F-18 Series Modification

Funds required in this program are \$4.7 million funded in FY 1990 and \$19.6 million requested in FY 1991 to correct discrepancies identified during testing and by so doing update delivered F-18 aircraft with components in the present configuration of in-production aircraft. This reduces logistics support costs through a reduction in the number and types of equipment that must be retained in the supply system to support F/A-18 operations.

H-46 Series Modification

\$16.1 million programmed in FY 1990 and \$39.5 million requested in FY 1991 are required for three H-46 modifications. The major program is the H-46 Block Upgrade. This program will provide additional fuel capacity to extend flight time, add a navigation capability, and improve aircraft flotation for emergency water landings. \$12.9 million is programmed in FY 1990 and \$27.1 million is requested in FY 1991 for the continuation of this block upgrade program.

The AN/AAR-47 Detection System provisions are designed to protect the H-46 against surface-to-air and air-to-air missiles (\$.8 million funded in FY 1990 and \$4.8 million requested in FY 1991). The AN/AAR-47 Detection System hardware is budgeted in the Common ECM equipment program. Also planned is the procurement of the Position Location Reporting System which enables battlefield and aircraft commanders the ability to track and communicate with air and ground forces. \$2.3 million is funded in FY 1990 and \$7.5 million is requested in FY 1991.

H-53 Series Modification

A total of \$32.1 million is funded in FY 1990 and \$35.7 million is requested in FY 1991 for H-53 modifications. Funds are requested to continue the CH-53E Block Upgrade which started in FY 1988. This modification will maintain a common CH-53E configuration while increasing safety, survivability, and maintainability by the addition of machine gun installations, inflight hydraulic fluid replenishment capability, improved chip detectors, composite tail rotor blade, main rotor pylon covers, and cabin egress lighting (\$4.3 million funded in FY 1990 and \$4.7 million requested in FY 1991).

Funds are required for the AN/AAR-47 Detection System provisions (\$3.7 million funded in FY 1990 and \$1.8 million requested in FY 1991). This improvement will provide warning of attack by surface-to-air and air-to-air missiles. The AN/AAR-47 Detection System hardware is budgeted in the Common ECM equipment program.

Also planned is the continuation of the Crashworthy Fuel System improvement which is designed to contain fuel spillage during and following crash impact, thus improving crew safety. \$2.4 million is funded in FY 1990 and \$2.6 million is requested in FY 1991 for this much needed improvement.

The Night Vision Goggles program will enhance low level night operations by improving the ability of the crew to see the terrain during low visibility. \$8.8 million is programmed in FY 1990 to procure cockpit lighting changes and AN/AVS-6 goggles.

Funds are programmed in FY 1990 (\$6.0 million) to begin the Helicopter Night Vision System program. This improvement, which utilizes a Forward Looking Infrared Radar (FLIR) adapted from the Army's AH-64 Apache, will enable helicopters to maneuver and navigate at low altitudes, locate and land in landing zones, day or night, during periods of reduced visibility. In addition, \$7.5 million is funded in FY 1990 and \$25.9 million is requested in FY 1991 for the MH-53E Engine Upgrade. This program will solve a safety problem by permitting the aircraft to recover from loss of one engine during towing operations on a hot day. Funds also are programmed in FY 1990 (\$2.4 million) for the Position Location Reporting System. This enables both battlefield and aircraft commanders the ability to track and communicate with air and ground forces.

Finally, \$3.7 million is requested in FY 1991 to begin the AN/APR-39 Upgrade program. This vital improvement will increase survivability in hostile environments by providing warning and protection against radar threats. The hardware for this program is budgeted in the Common ECM equipment program.

SH-60 Series Modification

\$.6 million is funded in FY 1990 and \$45.1 million is requested in FY 1991 for three modifications to the SH-60 aircraft. Funds in the amount of \$.6 million are programmed in FY 1990 and \$1.8 million requested in FY 1991 for continuation of the Helicopter Emergency Egress Lighting (HEEL) program. This vital safety improvement will increase the chances of successful aircrew emergency evacuation.

The major program for which funds are requested in FY 1991 (\$42.6 million) is the SH-60B Block Upgrade. This program will upgrade previously delivered aircraft to the latest production configuration. The following mission enhancements are included in this program: Advanced Lightweight Torpedo, 99 Channel Sonobuoy Receiver, Global Positioning System, AN/ARC-182 radios, various maintainability/operability items, and a Powertrain Upgrade.

Lastly, FY 1991 funds in the amount of \$.6 million are requested for the AN/APR-39A Radar Warning Receiver program for the HH-60H aircraft. This change will increase the survivability in hostile environments by providing warning and protection against laser and radar threats. The hardware for this program is budgeted in the Common ECM equipment program.

VH-60 Series Modification

\$5.9 million in FY 1990 is programmed for modifications to the VH-60 aircraft. First, \$.1 million is funded for the continuation of the Global Positioning System. This system will provide the VH-60 with three dimensional position, velocity and time information and will interface with communication and navigation equipment.

Also planned is the UHF (E/F) radio which provides a link from an airborne VH-60 through specific ground entry stations to a ground based communications network. \$3.5 million is funded in FY 1990 for this program.

Finally, \$2.2 million is provided for procurement of the EDU-2/P thermal flash blindness protection goggle program. This program is currently the only means of providing flash blindness protection to the aircrew.

H-1 Series Modification

A total of \$45.6 million is funded in FY 1990 and \$78.9 million is requested in FY 1991 for modifications to the H-1 series aircraft. The major modification planned is the AH-1 Block Upgrade. This change will provide improved power and armament capability to meet operational requirements in high altitude, hot temperature environments. Major improvements include incorporation of the T700 engine, the HELLFIRE Missile System, and an improved crashworthy fuel system. \$31.2 million is funded in FY 1990 for this vital upgrade program.

Another improvement is the AH-1 Navigation System improvement utilizing the AN/APN-217 Doppler Navigation System and related cockpit instrumentation. This modification will enhance nighttime low level operational capabilities. \$12.1 million is funded in FY 1990 and \$21.9 million is requested in FY 1991 for the continuation of this program.

Funds are requested for the AN/AAR-47 Detection System which will increase aircraft survivability by providing early detection of incoming enemy missiles permitting time for evasive maneuvering. \$.4 million is funded in FY 1990 and \$3.3 million is requested in FY 1991 to provision UH-1N aircraft, with an additional \$.8 million funded in FY 1990 and \$10.2 million requested in FY 1991 for provisioning of the AH-1W aircraft. AN/AAR-47 Detection System hardware is budgeted in the Common ECM equipment program.

Additionally, \$.8 million is funded in FY 1990 and \$41.1 million is requested in FY 1991 for the AH-1 Night Targeting Program. This modification will provide a night/adverse weather TOW missile and autonomous HELLFIRE missile capability. Also included in this budget request is \$.4 million funded in FY 1990 and \$2.3 million requested in FY 1991 for the AN/AVR-2 and AN/APR-39 Warning Receiver Systems program for the UH-1 aircraft. These systems are being incorporated to increase the survivability in hostile environments by providing warning and protection against laser and radar threats. The hardware for this program is budgeted in the Common ECM account.

H-2 Series Modification

The only program for which funding is programmed in FY 1990 (\$32.0 million) and requested in FY 1991 (\$8.9 million) is the SH-2F Service Life Extension Program (SLEP). Major modifications include extensive rework of dynamic component mounting structure, rework on severely corroded areas, modified webbing in the aircraft structure to alleviate cracking, and rewiring of the aircraft electrical system. The SLEP will also include a special mission kit consisting of UHF/VHF radio, missile warning set, jammer, forward looking infrared system and the Block Upgrade avionics equipment consisting of an acoustic processor, multi-purpose display, 99 channel sonobuoy receiver, interface control unit 1553 data bus, enhanced tactical navigation system (TACNAV), TACNAV to TACNAV data transfer system, APN-217 doppler, and supporting integrated logistics support. This SLEP program will extend the service life of the aircraft to meet the requirement and maintain mission effectiveness against the projected threat of the mid-1990s and beyond.

H-3 Series Modification

\$10.3 million programmed in FY 1990 and \$1.3 million requested in FY 1991 to fund H-3 series modifications. The SH-3H/G/D Service Life Extension Program is designed to extend the service life of the SH-3 past the year 2000 to provide essential CV helo and station SAR mission capability. Funds in the amount of \$2.2 million are programmed in FY 1990 and \$1.3 million are requested in FY 1991 for support.

In addition, funds are programmed for two VH-3 aircraft programs in FY 1990. First, the PLZT Goggle program will provide aircrews with thermal flash blindness protection by the procurement of EDU-2/P goggles. Funds in the amount of \$1.9 million are provided in FY 1990. The second program is the VH-3D Collision Warning System. This system will provide collision threat detection, visual and aural aircrew warning, and recommended avoidance maneuvers during visual and instrument flight conditions. \$6.2 million is provided for this program.

EP-3 Series Modification

A total of \$6.7 million is funded in FY 1990 and \$22.4 million is requested in FY 1991 for the EP-3 Modification Program. The \$6.7 million programmed in FY 1990 and \$1.0 million of the FY 1991 request is for the Conversion-in-lieu-of-Procurement (CILOP) program to modify 12 aging P-3C aircraft to EP-3. The Sensor Improvement is a Congressionally directed program that provides the EP-3 with improved capability to deal with the increasingly complex and dense threat signal environment by improving system frequency coverage, applying state-of-the-art signal exploitation/processing/display techniques, expand direction finding coverage and accuracy, and increase intercept system sensitivity. \$21.4 million is requested in FY 1991 for this program.

P-3 Series Modification

Included in the FY 1990 funding and the FY 1991 budget request are \$30.7 million and \$248.2 million, respectively for P-3 modifications. Continuation of the classified Special Project Aircraft effort is requested with funds of \$5 million programmed in FY 1990 and \$32.0 million requested in FY 1991.

Retrofit of AN/ARC-182 and AN/ARC-187 radios into P-3C aircraft began in FY 1986 and completes in FY 1991. Both of these radio modifications are being funded under the UHF/VHF Communication Update program with \$13.5 million being requested in FY 1991. \$5 million is funded in FY 1990 and \$6.1 million is requested in FY 1991 for the AN/ALR-66 program. The AN/ALR-66 is an upgraded electronic sensor monitoring system which provides automatic identification of radar transmissions.

The Update III Block Upgrade (\$29.7 million funded in FY 1990 and \$112.7 million requested in FY 1991) improves the acoustic processing system utilizing the Navy Standard AN/UYS-1, the ARR-78 Receiver, and USQ-78 Display and Control. Associated upgrades are required to interface with the P-3 main computer systems. Also requested in FY 1991 is \$5.3 million for a variety of reliability and maintainability upgrades and \$10.2 million for RP-3 modifications.

Lastly, \$68.3 million in FY 1991 is requested for the P-3C Update IV program. This modification provides for a new avionics suite which includes advanced radar and electronics surveillance measures systems, a data processing system integrated into a 1553B mux bus architecture, high resolution color monitors, an acoustic processing system and a satellite communications capability.

S-3 Series Modification

Modifications to the S-3 series aircraft require \$80.9 million in FY 1990 and \$112.9 million in FY 1991. The principal modification is the S-3 Block Upgrade for which \$77.1 million and \$111.8 million are funded in FY 1990 and requested in FY 1991, respectively. The purpose of this program is to improve Anti-Submarine Warfare (ASW) capabilities of the acoustic, Electronic Sensor Monitor (ESM) and radar subsystems, add Electronic Countermeasures (ECM) and Harpoon missile capability and increase useful service life through a redesigned Communication Control group.

Continuation of the Aerial Refueling Store (ARS) program is also programmed. This program provides aircraft modifications to permit carriage and operation of an ARS power source with required wiring and structural strengthening. \$1.5 million is funded in FY 1990 for the procurement of this system. In addition, \$2.3 million in FY 1990 is funded for continuation of the MK-46 Presetter Interface program which will modify the bomb bay decoder. Finally, \$1.1 million in FY 1991 is requested for incorporation of the MK-50 torpedo capability.

E-2 Series Modification

A total of \$80.1 million is funded in FY 1990 and \$119.5 million is requested in FY 1991 to modify E-2 aircraft. The principal E-2 modification is the Structural Enhancement program for which \$40.6 million is funded in FY 1990 and \$63.0 million is requested in FY 1991. This program extends the operational life of the aircraft by replacing the wing center section and modifying other structural components. \$7.7 million funded and \$5.2 million requested in FY 1990 and FY 1991, respectively are required to continue the Block Upgrade I program. This major improvement program includes a 10 KVA emergency generator set, microwave refractometer, various safety mods, pylon fixed fairings, a passive detection system, attitude gyro, vertical control surface replacement, TRAC-A radar antenna, cockpit electronic magnetic interference reduction, computer recorder reproducer, SPN-41 instrument landing system, and standard central air data computer.

In addition, \$3.6 million in FY 1991 is requested for the Block Upgrade II program. This dynamic modification program consists of fourteen projects as follows: T56-A-427 Engine, Radar Group I and II, Tactical Command and Control System, Joint Tactical Information Distribution System (JTIDS), Standard Automatic Flight Control System, Carrier Aircraft Inertial Navigation System, Cockpit Instrument Lighting System, High Speed Processor, Global Positioning System, Standard Attitude and Heading Reference System, Enhanced Displays, and Improved Identification Friend or Foe System.

Finally, \$31.8 million is funded and \$47.7 million is requested in FY 1990 and FY 1991, respectively for the Outer Wing Panel (OWP) program. This effort will replace current OWPs which have demonstrated fatigue stress cracks and which are now limited to 2500 flight hours. In addition, a structural fatigue data collection system will be installed to provide more accurate structural load data which should result in extended aircraft life.

Trainer Aircraft Series Modification

\$2.3 million is funded in FY 1990 and \$23.4 million is requested in FY 1991 for various modifications to Trainer aircraft. The Trainer aircraft line includes modifications budgeted for the T-2, TC-4C, T-34, T-38, T-44, TH-57, and TA-4 series aircraft. Within the account, \$.7 million is funded in FY 1990 and \$.8 million is requested in FY 1991 for the T-34 Landing Gear Actuation System modification which will reduce landing gear linkage stress. \$.7 million is programmed in FY 1990 and \$.7 million is requested in FY 1991 for the FAA Configuration Update for the T-44A, T-34C, T-38, and TH-57 aircraft. \$.4 million is funded in FY 1990 to update the TC-4C cockpit. \$.6 million is funded in FY 1990 and \$.2 million is requested in FY 1991 for the T-44 Service Life Extension Program. T-2B/C LS-1A Ejection Seat Survival Kit is a safety program to ensure proper positioning of the survival kit following negative "G" maneuvers (\$.3 million is requested in FY 1991). Due to the extended T-45 program delays, the TA-4J aircraft must remain in service longer than expected. The remaining three programs request FY 1991 funds to assist in extending the TA-4 service life. \$1.3 million is requested for Multiparameter and Structural Fatigue Data System. \$11.2 million is requested for the TA-4J J-52-P6 Reliability and Maintainability Improvement, and \$8.8 million is requested for the TA-4F/J miniature Air Data Computer Improvement.

C-130 Series Modification

The only funds required for this program are \$3.1 million funded in FY 1990 and \$8.0 million requested in FY 1991 for the Avionics System Improvement Program (Phase III). Among the modifications included are the incorporation or modification of the solid state propeller synchronization system, compass system, HF secure voice capability, combined altitude radar altimeter, engine instruments, flight detector, addition of the safety-related Ground Proximity Warning System, and many other avionics equipments. Together, these changes will substantially increase safety, reliability and maintainability.

FEWSG Modification

The ability to accurately simulate the known and postulated electronic warfare characteristics and tactics of different threats for fleet training is a primary mission element of the Fleet Electronic Warfare Support Group (FEWSG) and its assigned aircraft and equipments. In support of this program, \$.3 million is funded in FY 1990 and \$5.5 million is requested in FY 1991 for FEWSG modifications. \$.3 million is programmed in FY 1990 for the AN/ALE-43 Product Improvement program. This modification will replace the existing chaff cutter heads.

In addition, \$5.5 million is requested in FY 1991 to initiate two new programs: the NKC-135 Re-Engine program (\$4.0 million) and the AN/ALT-40 Upgrade (\$1.5 million). The Re-Engine modification provides for the replacement of the presently installed water injected J57-43 engine with used JT3D-3B engines and the replacement of the external stores pylons. The AN/ALT-40 Upgrade will make improvements to the system in order to enable continued realistic threat emitter simulation.

Cargo and Transport Aircraft Series Modification

\$1.6 million is programmed in FY 1990 and \$6.4 million is requested in FY 1991 for the Cargo and Transport Modification line item which includes modifications budgeted for the C-131, C-9, UC-12, and CT-39 aircraft.

The major modification planned in this category is the continuation of the C-9 Service Standardization program. This modification provides standard TACAN, UHF/VHF radio, cargo door/floor changes, and other minor modifications to standardize the C-9 fleet. \$1.5 million is funded in FY 1990 and \$3.0 million is requested in FY 1991 for this program.

\$1.1 million is funded in FY 1990 and \$2.9 million is requested in FY 1991 for the FAA configuration update which serves all of the Cargo/Transport Aircraft. \$1.1 million is funded in FY 1990 and \$1.5 million is requested in FY 1991 for the CT-39E/G Service Life Extension Program.

E-6 Series Modification

The only modification for which funding is programmed in FY 1990 (\$7.5 million) and requested in FY 1991 (\$8.2 million) is the Correction of Deficiencies program. These funds are required so that discrepancies which are discovered during follow-on E-6A testing can be immediately corrected in order to maintain necessary force levels.

Power Plant Changes

This program funds procurement of a large number of primarily small dollar engine modifications designed to extended engine life and incorporate needed reliability and maintainability improvements. For this purpose, \$6.0 million is funded in FY 1990 and \$11.6 million is requested in FY 1991.

Miscellaneous Flight Safety Changes

\$1.0 million is funded in FY 1990 and \$27 thousand is requested in FY 1991 for safety related modifications. This program provides for the procurement of kits to correct flight safety and operational deficiencies which are revealed during fleet operations.

Common ECM Equipment

A total of \$46.7 million is programmed in FY 1990 and \$102.8 million is requested in FY 1991 for common electronic countermeasure equipment. The AN/AAR-47 Detection System provides warning of approaching missiles by radiation detection and initiates flare ejection. Aircraft supported by this system are the CH-53, CH-46, OV-10, AH-1, and UH-1 (\$24.2 million funded in FY 1990 and \$17.7 million requested in FY 1991).

In addition, \$3.7 million is funded in FY 1990 and \$59.3 million is requested in FY 1991 for AN/ALR-67 hardware. The AN/ALR-67 provides detection and direction finding over the entire radio frequency spectrum of target tracking and missile control systems. This program provides for the procurement of this system for the F/A-18, A-6E and F-14 aircraft. \$9.9 million is programmed in FY 1990 for completion of the AN/ALQ-162 countermeasures program. These funds are required for engineering change orders and support.

Funds are also requested for the AN/APR-39 and AN/AVR-2 hardware procurement. The aircraft supported by these systems are the OV-10, H-53, HH-60H, AH-1, and UH-1. \$8.9 million is funded in FY 1990 and \$25.8 million is requested in FY 1991 for this program. The aircraft provisions for these systems are budgeted in the appropriate aircraft accounts.

Common Avionics Changes

A total of \$3.1 million is programmed in FY 1990 and a total of \$15.3 million is requested in FY 1991 for common avionics equipment procurement. \$1.4 million funded in FY 1990 and \$3.1 million requested in FY 1991 are required for the Digital Air Data Converter. This equipment will provide a standardized air data computer for a number of Navy aircraft and will increase Mean Flight Hours Before Failure (MFHBF) for air data computers from 106 hours to 400 hours, thus improving aircraft readiness rates. In addition, \$1.7 million is funded in FY 1990 and \$12.2 million is requested in FY 1991 for the NAVSTAR Global Positioning System (GPS) to procure hardware for the various aircraft platforms using GPS.

Installation of Modernization Equipment

In FY 1990 \$835.8 million is funded for the installation of modification equipment procured in FY 1990 as well as uninstalled equipment acquired in previous years. Also funded in this line is concurrent maintenance and repair of all uninstalled modification equipment, including modification equipment furnished by contractors under warranty. In FY 1991 these installation requirements are included within each applicable modification line item.

Budget Activity 6: Aircraft Spares and Repair Parts

(In Thousands)	
FY 1991 Estimate	\$1,288,542
FY 1990 Estimate	\$1,219,605
FY 1989 Actual	\$1,140,424

Purpose and Scope of Work

Budget Activity 6 funds the procurement of the spare equipment and repair parts necessary to support Navy and Marine Corps aircraft procurement and operating programs. The budgeted funds provide for: (1) initial outfitting and pipeline quantities of reparable spares and repair parts for new and modified aircraft; and (2) buyout of shore and afloat site outfittings Depot Level Repairable spares from the Department of the Navy Stock Fund (DONSF) by means of the aviation outfitting account in the year of delivery, and a small number of non-stock funded replenishment spares.

Justification of Funds

On 1 April 1985, the Navy transferred the financing of the procurement and repair of Aviation Depot Level Repairable (DLR) components to the Navy Stock Fund. Prior to that time, DLRs were funded in either Weapons Procurement, Navy (WPN), Other Procurement, Navy (OPN), or Aircraft Procurement, Navy (APN), while repair was funded in the Operation and Maintenance, Navy (O&M,N) appropriation. In the procurement accounts, release of these items from the supply system was on a 'free issue' basis. Under stockfunding, a 'buyer/seller' relationship is established and users of DLRs pay for what they requisition. Results have been extremely positive with readiness indicators showing strong improvement through FY 1989.

The following table depicts the funding profile for the spares account.

	(\$ in Millions)		
	FY 1989	FY 1990	FY 1991
Initial Spares and Repair Parts	\$ 399.4	\$ 794.0	\$ 665.0
Replenishment Spares and Repair Parts	741.0	425.6	623.5
Total Aircraft Spares and Repair Parts	\$1,140.4	\$1,219.6	\$1,288.5

Initial Spares:

The initial spares requirements support the number, type and deployment of aircraft being procured and entering the operating program.

The items being procured under the initial spares category include engines, spares for equipments and parts which have been recently introduced and for which there is not sufficient leadtime for the Stock Fund to field. Funding requirements for engines, major avionics, and other equipments which qualify as initial spares are calculated on an item-by-item basis predicated on usage data, failure rates, and engineering estimates to predict usage. Requirements for other initial spares and spare parts are determined on a statistical basis, using the same methodology used in calculating major spare equipment requirements.

The following table shows FY 1990 and FY 1991 Initial Spares and Repair Parts support requirements by aircraft model:

(\$ in Millions)												
FY 1990							FY 1991					
Aircraft Model	A/C Qty	Spare Engines	Contract Spares	PSE Spares	Total		A/C Qty	Spare Engines	Contract Spares	PSE Spares	Total	
					AOA Initial	Initial Spares					AOA Initial	Initial Spares
A-12	-	-	-	1.2	-	1.2	-	-	-	-	-	-
A-6E	-	-	10.2	8.1	-	18.3	3	-	15.7	5.4	1.3	22.4
EA-6B	-	-	-	-	-	-	-	-	-	-	-	-
Class. Prgrm.												
AV-8B	24	19.6	77.2	10.8	1.1	108.7	24	31.2	35.8	6.0	4.6	77.5
F-14D	24	46.3	61.8	.6	-	108.7	12	50.6	39.9	-	.3	90.7
F/A-18	66	11.9	96.2	22.4	17.0	147.5	66	3.5	69.9	-	5.0	78.3
CH/MH-53E	10	23.2	.9	.1	.1	24.3	23	23.0	1.5	-	.3	24.7
AH-1W	-	-	-	.5	-	.5	-	-	-	-	-	-
SH-60B	6	3.7	14.1	.1	.8	18.7	6	6.2	17.5	-	.2	23.9
SH-60F	-	3.1	25.0	-	-	28.1	16	4.7	10.5	-	.6	15.9
E-2C	4	4.8	44.5	.9	-	50.2	6	8.2	13.2	.5	-	22.0
T-44	5	-	.4	-	-	.4	-	-	.1	-	-	.1
T-45	-	-	29.6	-	-	29.6	12	9.8	14.1	-	-	24.0
E-6A	-	-	15.5	-	-	15.5	-	-	3.9	-	-	3.9
HH-60	-	1.2	7.8	-	-	9.0	-	-	-	-	-	-
Airborne Weapon Spares	-	-	6.3	-	-	6.3	-	-	6.0	-	-	6.0
Training Device Spares	-	-	21.8	-	-	21.8	-	-	26.9	-	-	26.9
CGSE Repair Parts ^{1/}	-	-	-	21.5	-	21.5	-	-	-	33.4	-	33.4
ATE/SE Parts ^{1/}	-	-	-	14.1	-	14.1	-	-	-	18.4	-	18.4
Mod Spares	-	-	-	-	-	96.8	-	-	-	-	-	93.0
TOTAL		113.8	484.2	80.2	19.1	794.0		137.2	358.9	63.7	12.2	665.0

Totals may not add due to rounding.

1/ Supports equipment procured in B.A. 7.

Initial spares and repair parts are categorized as follows:

- (1) Government Furnished Spare Aircraft Engines - (FY 1990 - \$113.8 million; FY 1991 - \$137.2 million).

Spare aircraft engine requirements are calculated on an actuarial basis to support the aircraft operating program with a confidence level of 80% to 90% that a spare engine will be on site and ready for issue when required by combat aircraft. Requirements are determined by establishing flying hours for each type/model aircraft and applying to that program the engine repair and removal rates to determine total engine requirement. On hand and on order assets are deducted from this gross requirement to arrive at a net procurement requirement. Requirements are thus established for initial outfitting of shore and afloat sites and to fill maintenance repair/overhaul pipelines.

- (2) Contractor Spares Support - (FY 1990 - \$484.2 million; FY 1991 - \$358.9 million)

Contractor furnished spares and repair parts are provided for support of new, sophisticated weapons systems or subsystems during their development and fleet introductory phases until the Material Support Date is reached, at which time the Navy supply system assumes responsibility for providing these spares and repair parts. Contractor support is designed to preclude procurement of unnecessary or unstable spare parts before usage data is available or aircraft equipment design is stabilized. Requirements are calculated by comparing the new weapon system with historical data for a similar/same aircraft and utilizing the Weapon System Planning Document which provides the site activation schedule.

- (3) Peculiar Support Equipment (PSE) - (FY 1990 - \$80.2 million; FY 1991 - \$63.7 million)

The funding requested here provides for repair parts essential to the support (readiness) of PSE end items required for the ground testing, servicing, handling and maintenance of specific weapon systems and their sub-systems. These PSE end items require complete integrated logistic support, including repair parts, concurrent with delivery in order to adequately support the related weapon systems. PSE spares funding also provides for contractor augmented support. Requirements are determined by the initial quantity of PSE end items procured, the complexity/cost of the end items, the number of sites to be supported, the proximity/inter-support relationship of shore-based sites, and the period of time between equipment introduction and material support date.

- (4) Aviation Outfitting Account Initial - (FY 1990 - \$19.1 million; FY 1991 - \$12.2 million)

The funding requested in this section procures spares from the Department of the Navy Stock Fund to field new weapons at ashore operating sites, using peacetime operating rates.

(5) Modification Spares - (FY 1990 - \$96.8 million; FY 1991 - \$93.0 million)

The investment program also includes procurement of initial repairable spares and repair parts to support the modification program financed under Budget Activity 5. Requirements include new procurement and/or the modification of spares and repair parts already in the inventory. Requirements are based on the corresponding elements being procured for the aircraft modification program.

Replenishment Spares:

Total funding requested for all replenishment spares programs is \$425.6 million in FY 1990 and \$623.5 million in FY 1991. The replenishment spares element of the budget is made up of: (a) the aviation outfitting support account which provides funding to procure outfitting spares from the Department of the Navy Stock Fund for afloat activities required to support the introduction of new or expanded populations of operating aircraft, (b) replenishment spares procured at the Naval Air Systems Command headquarters to support executive mission helicopters, interservice support requirements and miscellaneous aircraft systems, and (c) a small number of non-stock funded replenishment spares.

The following table shows the FY 1990 and FY 1991 replenishment spares funding levels by category:

	(\$ in Millions)	
	FY 1990	FY 1991
Aviation Outfitting Support	\$ 395.0	\$ 576.0
Inventory Control Point Support	5.8	11.7
Interservice Support	.3	.5
Executive Mission Helicopters	5.8	12.3
F-5/F-16N/T-38 Aircraft	16.6	20.5
Miscellaneous Headquarters	2.1	2.5
TOTAL	\$ 425.6	\$ 623.5

The replenishment spares are categorized as follows:

(1) Aviation Outfitting Support - (FY 1990 - \$395.0 million; FY 1991 - \$576.0 million)

This account funds the procurement for all afloat and shore activity outfittings required to support fleet operating aircraft. These requirements are procured by the Department of the Navy Stock Fund in advance and are subsequently 'bought out' by 'his account. This approach has provided: a) improved material availability, b) improved asset management, and c) essential financial flexibility. The benefits are an improved logistics support posture and a corresponding improvement in aircraft readiness.

(2) Inventory Control Point (ICP) Support - (FY 1990 - \$5.8 million; FY 1991 - \$11.7 million)

Spare repairable components are managed by the Aviation Supply Office and the Ships Parts Control Center, which have been assigned program support responsibility for specific aircraft/weapon systems. Spares requirements are calculated by an individual line item stratification technique. The Uniform Inventory Control Point stratification requirements are computed utilizing DOD logistics guidance, Navy program planning data, and technical, procurement, and inventory data maintained by the ICP. During stratification, these components are evaluated in terms of inventory on hand and on order, demand experience, projected demand, and outfitting requirements.

(3) Interservice Support - (FY 1990 - \$3.3 million; FY 1991 - \$5.5 million)

Funds are required to reimburse the Army and Air Force for repairable material used during both in house (organic) and service administered commercial overhaul work of Navy aircraft engines, airframes and other repairable components. Material requirements are calculated by the Army and Air Force for the Navy's projected overhaul/rework program and are validated through negotiation between the Naval Air Logistics Center and Army/Air Force representatives.

(4) Executive Mission Helicopters - (FY 1990 - \$5.8 million; FY 1991 - \$12.3 million)

Replenishment spares support requirements for the VH-3D and VH-60A Executive Mission aircraft. The Executive mission provides a transportation and evacuation capability for the Chief Executive, Heads of State and other visiting dignitaries. Eleven VH-3D aircraft operate from one primary site and two auxiliary sites. Nine VH-60A aircraft were procured in FY 1986 to replace the VH-1N aircraft at the end of FY 1989. These helicopters operate for extended periods of time from numerous other locations necessitating selected item pickup kits of replenishment spares. Material support requirements are calculated based on inputs from the operating squadron, the aircraft contractor and those peculiar requirements set forth by the Executive Branch. Executive Mission helicopters must have 100% spares support for repairable components. These components are procured so that a spare will be on hand when the component reaches half its projected service life.

(5) F-5/F-16N/T-38 Aircraft - (FY 1990 - \$16.6 million; FY 1991 - \$20.5 million)

Funds are required for the procurement of repairable material support from the Air Force for 40 F-5E/F, 26 F-16N and six T-38A aircraft operating at four sites. Material requirements are developed by the weapon system manager and NAVAIR based on past spares usage, the projected flying hour program and the number of sites operating the aircraft.

(6) Miscellaneous NAVAIR Headquarters Support - (FY 1990 - \$2.1 million; FY 1991 - \$2.5 million)

This includes material support requirements for the Fleet Electronic Warfare Support Group (FEWSG), Project Beartrap, Special Project Mission Avionics and VH-3A aircraft support. Spares requirements for FEWSG, Project Beartrap and Special Project Mission Avionics requirements are developed by the Naval Avionics Center in conjunction with the operational activities, based on past usage and anticipated system changes. VH-3A spares requirements are developed by the fleet operational squadron and NAVAIR, using historical data to project future material requirements.

Budget Activity 7: Aircraft Support Equipment and Facilities

(In Thousands)	
FY 1991 Estimate	\$ 587,891
FY 1990 Estimate	\$ 558,464
FY 1989 Actual	\$ 518,303

Purpose and Scope of Work

The FY 1990 program of \$558.5 million and the FY 1991 request of \$587.9 million provide continuing vital effort in the following categories which support aircraft systems:

- (1) Common Ground Equipment, which provides funds for the Consolidated Automated Support System (CASS) equipment, other Automatic Test Equipment (ATE), Avionics Support Equipment (ASE), various aircraft systems trainers and training aids, and other aircraft ground support equipment including Rapid Deployment Force requirements and Mobile Maintenance Facilities for Marine expeditionary forces.
- (2) Aircraft Industrial Facilities, which provides calibration equipment for Navy standards and calibration laboratories. It also provides for capital improvements, modernization, and maintenance of government-owned, but contractor-operated, aircraft-producing industrial plants.
- (3) War Consumables, which provides funds for auxiliary fuel tanks, air refueling stores, pylons, and ejector racks and for the modification of these equipments. The new procurement items are of a consumable nature and are related primarily to the number of sorties flown by combat and training aircraft.
- (4) Other Production Charges, which provides funds for miscellaneous production support and testing services, aircraft cameras, various equipment for United States Coast Guard aircraft, and aircraft pods and instrumentation packages supporting tactical aircrew combat training and mobile sea range systems.
- (5) Special Support Equipment, which provides funds in support of a classified program.
- (6) First Destination Transportation, which provides for the movement of newly procured equipment and material from the contractor's plant to the initial point of receipt by the government. These costs were previously budgeted in the Operations and Maintenance, Navy appropriation; however, they have been transferred to the procurement appropriations beginning in FY 1991 to more accurately reflect the entire acquisition cost of equipment.

Justification of Funds

Funding requirements for the FY 1990 and FY 1991 programs are outlined in the following table:

	(Dollars in Millions)	
	FY 1990	FY 1991
Common Ground Equipment	\$437.7	\$434.4
Aircraft Industrial Facilities	32.8	36.0
War Consumables	2.7	30.7
Other Production Charges	38.3	33.6
Special Support Equipment	47.0	47.2
First Destination Transportation	-0-	6.0
Total B.A. 7	\$558.5	\$587.9

Common Ground Equipment

Funding for the various segments of this program is depicted below and described in subsequent paragraphs:

	(Dollars in Millions)	
	FY 1990	FY 1991
(a) Consolidated Automated Support Equipment (CASS)	\$169.0	\$173.6
(b) Training Equipment	42.0	43.0
(c) Automatic Test Equipment (ATE)	68.7	66.8
(d) Aircraft Common Support Equipment	50.6	51.1
(e) Mobile Maintenance Facilities	11.3	11.4
(f) Inventory Control Point (ICP)	39.6	20.8
Managed Support Equipment		
(g) Headquarters Managed Peculiar Support Equipment	12.7	19.4
(h) Gas Turbine Compressor Replacement	3.9	4.1
(i) Avionics Support Equipment	27.3	30.3
(j) Rapid Deployment Force/Maritime Prepositioned Ships	12.6	13.9
Total Common Ground Equipment	\$437.7	\$434.4

Consolidated Automated Support System (CASS) Equipment

The FY 1990 program of \$169.0 million and the request of \$173.6 million in FY 1991 is for the initial procurement of newly designed, modularly constructed automatic test equipment with computer assisted, multi-functional capability based on standardized hardware and software elements. The CASS design incorporates easily reconfigurable modules which can address varying test requirements and will also allow modification to meet the demands of future technologies.

The CASS program will increase material readiness, reduce life cycle costs through standardization of equipment and all logistic elements, improve tester sustainability at depot and intermediate maintenance levels (including aircraft carriers), reduce the proliferation of unique test equipment, and provide Navy-wide test capabilities for existing and future avionics electronic support requirements. CASS will increase repair facility throughput capability, reduce spare parts and personnel training requirements and significantly reduce the space required for avionics testing aboard critically space-limited aircraft carriers.

Training Equipment

The FY 1990 program is \$42.0 million and the FY 1991 request is \$43.0 million. The Training Equipment sub-line item provides funds for acquisition of trainers, training equipment, training parts, government furnished equipment and ground support equipment for training purposes, and modifications/changes relating to the above acquisitions. The procurements funded within the Training Equipment sub-line item are limited to: (1) training devices and equipment and related modifications for generalized training programs which provide skills common to more than one weapon system, (2) trainers for out-of-production aircraft, and (3) GFE in support of courses at the Navy Formal Schools. Training related to out-of-production aircraft is dependent upon these funds for all acquisitions, specific trainer-peculiar changes, modification/modernization, and user-generated changes and replacements. The Training Equipment sub-line item is broken into two major categories, General Training Equipment and Modification/Modernization of Trainers. The following tables display funding profiles within the Training Equipment sub-line item:

General Training Equipment

	(In Thousands)	
	FY 1990	FY 1991
Air Traffic Control Trainers	1,601	2,156
'A' School Trainers	2,601	1,026
Physiological Trainers	4,100	4,100
Total General Training Equipment	\$ 8,302	\$ 7,282

Modification/Modernization of trainers requirements, including GFE for out-of-production weapon systems

<u>Program</u>	<u>(In Thousands)</u>	
	<u>FY 1990</u>	<u>FY 1991</u>
A-6E	2,795	5,379
A-7	105	0
C-2A	905	350
E/K/C-130	917	311
F-14A	9,065	6,339
GFE for Formal Schools	855	870
H-1 Operational Flight Trainer (OFT)	0	16,525
H-2	4,290	0
H-3	745	0
P-3A/B	7,003	2,955
S-3A	7,050	3,001
	<u>\$33,730</u>	<u>\$35,730</u>
Total Modification/Modernization of Trainers		

ATE (Automatic Test Equipment)

The FY 1990 program includes \$68.7 million and the budget requests \$66.8 million for FY 1991. The ATE segment of the Common Ground Equipment budget line item was established to broaden this category of support equipment acquisition formerly limited to VAST (Versatile Avionics Shop Test). The ATE account has funded the procurement of the Tailored MINI-VAST, as well as a family of module testers.

The FY 1990 and 1991 ATE programs include funding for the Enhanced Comprehensive Management System (ECAMS), portable ground stations used to support maintenance scheduling by downloading engine and structure usage and fatigue data to ensure safety of flight. The budget request also includes funding for Test Program Set (TPS) Translation/Offload necessary to transition existing test equipment software to CASS as it becomes operational.

Aircraft Common Support Equipment

The Aircraft Common Support Equipment element under the Common Ground Equipment line item provides for the initial outfitting of Common Support Equipment under NAVAIR inventory and technical management. These Support Equipment (SE) end items are required for ground testing, servicing, handling, and maintenance of aircraft and their systems. SE items acquired under this budget line item include aircraft propulsion test systems, mobile generators, frequency converters, tow tractors, and aircraft handling equipment.

A comprehensive acquisition plan has been developed for each FY 1990/1991 SE item to: (1) ensure that the equipment is ready for procurement by the budget year; (2) to determine the type of procurement action to be initiated (multi-year, etc.); (3) verify the inventory objective, and; (4) ensure the consideration of required integrated logistic support elements.

The Support Equipment (SE) which will be procured are determined through one of the following processes:

1. The direct result of the SE RDT&E Program (these are items required to support advanced aircraft systems).
2. Reprourement of current SE required to respond to meet outfitting shortages.
3. Improved versions of current SE required to support expanded airborne equipment capabilities or advanced airborne equipment (electrical servicing equipment, ground air conditioners, etc).
4. Major modifications of existing SE.
5. Equipment developed to improve the capability of the Fleet and/or to improve safety (aircraft towing equipment, non-destructive inspection equipment, etc).

To meet requirements in a timely manner, \$50.6 million is programmed in FY 1990 and \$51.1 million is requested in FY 1991.

Mobile Maintenance Facilities

\$11.3 million is programmed in FY 1990 and \$11.4 million is requested in FY 1991 for Mobile Maintenance Facilities. This program provides for the acquisition of mobile facilities and related equipment to support Marine Corps Expeditionary Forces and Navy contingency/mobilization aircraft and weapon system maintenance operations. The concept is to provide rapid-response mobility by the use of relocatable maintenance shelters. Execution of the Marine Corps Aviation mission is dependent on a highly mobile and functionally independent aircraft maintenance support capability.

The basic equipments procured under this sub-line item are the container (Van), environmental control unit, electric generator, running gear for ground transport, and static converters (60 Hz to 400 Hz).

Inventory Control Point (ICP) Managed Support Equipment (SE)

ICP Managed SE funds the procurement of end items of Peculiar Support Equipment (PSE) for out-of-production weapon systems, and all Common Support Equipment (CSE) under the budget, procurement and inventory control of the Aviation Supply Office (ASO), Philadelphia, and the Ships Parts Control Center (SPCC), Mechanicsburg, PA. PSE and CSE end items are normally introduced into the Fleet through NAVAIR development and initial procurement. When design is completed and procurement packages become available, the items are sent to ASO or SPCC inventory management to be funded under this sub-line. Currently, ASO manages some 10,500 individual repairable SE end items whereas SPCC manages some 500 items, primarily cryogenic and armament equipment.

The budget requirements for this element are categorized as follows:

- a. Increased quantities of out-of-production aircraft PSE and CSE required for site outfitings.
- b. Replacement out-of-production aircraft PSE and CSE resulting from wear-out and attrition.
- c. Increased quantities of out-of-production aircraft PSE and CSE required for allowance augmentation.

Sample SE end items procured under this sub-line item include aircraft jacks, aircraft tow bars, hoisting slings, armament handling equipment and maintenance platforms.

To support this effort, \$39.6 million is programmed in FY 1990 and \$20.8 million is requested in FY 1991.

Headquarters Managed Peculiar Support Equipment

This budget sub-line provides funds to replace certain in-use Peculiar Support Equipment (PSE) assets that are now only marginally effective due to obsolescence or to the unavailability of associated logistics support. Of late 1960 and early 1970 vintage, the applicable vendors no longer manufacture the PSE items or associated repair parts. Alternate sources are not available. As a consequence, a replacement item that is logistically supportable must be designed and produced. In addition, this sub-line provides completion of the design and initial production of (1) certain PSE items that for various reasons were not funded during the production phase of the weapon systems and (2) modification of PSE to extend its useful service life.

\$12.7 million is programmed in FY 1990 and \$19.4 million is requested in FY 1991 for this program.

Gas Turbine Compressor (GTC) Replacement

The budget includes \$3.9 million in FY 1990 and \$4.1 million in FY 1991 to finance the acquisition of new universal jet aircraft start units (JASU) capable of starting all Navy aircraft requiring a ground start power cart.

Avionics Support Equipment

The FY 1990 program of \$27.3 million and the \$30.3 million requested in FY 1991 will provide for the acquisition of several common avionics support equipment items: AN/USM-406(V) Countermeasures Test Set; AN/APM-455 Radar Beacon Test Set; AN/UPM-149 Transponder Test Set; AN/USM-482 Swept Frequency Measurement Test Set; MK 432 MOD 4 Torpedo Presetter Test Set; Pressure Temperature Test Set; and a Cable Tester.

The AN/USM-406(V) is an electronic warfare countermeasure test set used in organization-level maintenance support of a variety of EW equipment. The Torpedo Presetter Test Set will provide organizational level testing for verification of presetter functions and release mechanisms for all air and surface ASW torpedoes. The new portable Pressure/Temperature Test Set is designed for both flight line and intermediate maintenance in checking performance characteristics of aircraft airspeed, altimeter, and engine pressure ratio system. It will also provide temperature simulation and pressure data required by the Standard Central Air Data Computer. The Cable Tester will provide the necessary stimulus to exercise and verify cable performance at Navy/Marine Intermediate Level Maintenance activities in support of the Cable Repair Program. The Radar Beacon Test Set is a portable, battery powered test set which will provide rapid organization level tests of the Automatic Carrier Landing System (ACLS) with greater accuracy and reliability. The Transponder Test Set (AN/UPM-149) replaces the AN/UPM-137 and tests the operation of airborne transponders at Intermediate Level maintenance activities. The AN/USM-482 Swept Frequency Measurement Test Set is a frequency domain reflectometer test set which provides insertion loss, return loss, and distance to fault measurement when troubleshooting RF transmission lines. The AN/USM-482 will provide faster testing capability, is smaller in size, and lighter in weight than previous RF testers and is computer controlled.

Rapid Deployment Force/Maritime Prepositioned Ships

The \$12.6 million programmed in FY 1990 and the \$13.9 million requested in FY 1991 will procure additional Support Equipment for upgrading three Marine Amphibious Brigades. This support equipment (SE) will support aircraft configuration changes and replace/modernize outdated SE utilized in the RDF mission.

Aircraft Industrial Facilities

Funding is requested for the following categories of equipment:

	(Dollars in Millions)	
	FY 1990	FY 1991
Calibration Equipment	\$23.2	\$25.2
Contractor Facilities	9.6	10.8
Total Aircraft Industrial Facilities	\$32.8	\$36.0

Calibration Equipment

The calibration program provides the fleet with a means to ensure that Support Equipment (SE) is operational and accurate. Calibration is the process of periodically comparing the performance of items of SE to that of equipment of known and greater accuracy. This accuracy must be traceable to the National Bureau of Standards. Calibration includes any adjustments to the SE that may be required.

Calibration funds are used to procure calibration standards and ancillary equipment required to support aviation SE. Approximately 100 fleet intermediate level calibration laboratories, 30 Navy Calibration Laboratories (Depot) and five Standards Laboratories are supported through these procurements. Standards are used to initiate capability, expand capabilities, improve efficiency of production, reduce manhours and to replace obsolete equipment.

Contractor Facilities

The contractor facilities program provides for capital maintenance, modernization, improvements, emergency repairs, and fire protection for government-owned, contractor-operated, aircraft-producing industrial plants and for replacement/restoration of government-owned production equipment in use on Navy programs at these plants. Facilities management contracts require that the government fund capital maintenance projects as required. These projects apply to Naval Weapons Industrial Reserve Plants (NWIRPs) at Bloomfield, Conn.; Dallas, Texas; Bethpage, New York; and Calverton, New York.

War Consumables

\$2.7 million is programmed in FY 1990 and \$30.7 million is requested in FY 1991 for War Consumables. The War Consumables program funds procurement of those airborne equipments which can be suspended, released, or jettisoned from aircraft. Funding in this program provides for procurement of Aerial Refueling Stores and Launcher/Ejection Racks. Items are bought in this account to satisfy inventory objectives which are determined by such factors as the numbers and types of using aircraft, the mission of aircraft, and attrition and pipeline requirements. The FY 1991 request includes funding for a follow-on procurement of Aerial Refueling Stores which allow combat aircraft to perform aerial refueling missions in a carrier battle group environment. The FY 1990 and FY 1991 programs also fund the procurement of LAU-7 missile launcher release mechanism upgrade kits to prevent inadvertent release of missiles during carrier arrestments.

Other Production Charges

The \$38.3 million programmed in FY 1990 and the \$33.6 million requested in FY 1991 provide for the following:

- (a) Government-Furnished Equipment (GFE) production support which includes testing services, production data reviews, technical publications, repair of damaged or defective GFE, and procurement of Navy Stock Fund items necessary for fleet installation of technical directives (i.e., minor modification kits and other hardware changes).
- (b) Procurement of certain Navy avionics equipment for installation in Coast Guard aircraft.
- (c) Procurement of reconnaissance and other aerial cameras.
- (d) Procurement of instrumentation packages used by aircraft participating in Mobile Sea Range exercises.
- (e) Procurement of pods for the Tactical Aircrew Combat Training System (TACTS).

Special Support Equipment

Funding programmed in FY 1990 (\$47.0 million) and requested in FY 1991 (\$47.2 million) will support a classified program.

First Destination Transportation Charges

The budget requests \$6.0 million in FY 1991 for the movement of newly procured equipment and material from the contractor's plant to the initial point of receipt by the government. This program, previously funded in the Operation and Maintenance, Navy appropriation, has been transferred to the procurement appropriations to more accurately reflect the full cost of equipment acquisition.

**COMPARISON OF FY 1990 PROGRAM REQUIREMENTS AS REFLECTED IN FY 1990/91
PRESIDENT'S REVISED BUDGET WITH FY 1990 PROGRAM REQUIREMENTS SHOWN IN FY 1991 PRESIDENT'S BUDGET**

	<u>Total Program Requirements per 1990/91 Revised Budget</u>	<u>(In Thousands of Dollars) Total Program Requirements per 1991 Budget</u>	<u>Increase (+) or Decrease (-)</u>
Combat Aircraft.....	\$ 6,180,839	\$ 5,871,331	-\$ 309,508
Airlift Aircraft.....	-	-	-
Trainer Aircraft.....	165,137	108,285	- 56,852
Other Aircraft.....	-	-	-
Modification of Aircraft.....	600,757	1,540,439	+ 939,682
Aircraft Spares and Repair Parts.....	1,322,707	1,219,605	- 103,102
Aircraft Support Equipment and Facilities	556,660	558,464	+ 1,304
Reimbursable Program.....	<u>1,600</u>	<u>6,600</u>	<u>+ 5,000</u>
TOTAL FISCAL YEAR PROGRAM.....	\$ 8,827,700	\$ 9,304,724	+\$ 477,024

EXPLANATION BY BUDGET ACTIVITY

Combat Aircraft (-\$309.5 million)

The changes in this budget activity are primarily associated with the following Congressional actions including specific net changes of -\$299.4 million and application of contractor support services and contractor travel savings reductions of \$10.1 million:

<u>Program</u>	<u>Quantity</u>	<u>Amount</u>	<u>Program</u>	<u>Quantity</u>	<u>Amount</u>
EA-6B Refng.		-\$.3	CH-53E	-13	-\$205.4
AV-8B (MYP)		- 42.0	SH-60B (MYP)		- .3
F-14+/D Refng.	+18	+ 637.4	E-2C		- .6
F/A-18		- 114.3	E-2C Adv. Proc.		- 194.5
F/A-18 Adv. Proc.		- 389.5	Total	+ 5	-\$309.5

Other changes include a below threshold reprogramming increase to the EA-6B program (\$8.9 million) for increased peculiar ground support equipment requirements and a decrease to the EA-6B advance procurement account (\$8.9 million) based on reduced contractor and government equipment long lead time requirements.

Trainer Aircraft (-\$56.9 million)

Change in this budget activity was due to application of general Congressional reductions of \$.2 million and a specific Congressional reduction of \$56.7 in the T-45A program.

Modification of Aircraft (+\$939.7 million)

Congressional action resulted in a net increase of \$990.3 million in the following programs:

Program	Amount	Program	Amount
A-6 Series	+\$47.7	H-1 Series	-\$.1
EA-6 Series	- .1	H-2 Series	- .1
ES-3 Series	- .2	P-3 Series	- .1
H-53 Series	- .1	S-3 Series	+ 24.8
		E-2 Series	-\$.2
		Common ECM	- .1
		Installation of Mod. Equip.	+ 918.8
			+\$990.3

Other changes include proposed inter-appropriation DD1415 reprogramings: one transferring \$83.0 million from the Modification Installation program to offset sequestration reductions to military pay and allowances in the military personnel appropriation and another one proposing program realignment of the Position Location Reporting System transferring \$4.7 million into the appropriation for the H-46 Series (\$2.3 million) and the H-53 Series (\$2.4 million).

Additional changes are increases of \$9.8 million to the OV-10 Series for Block Upgrade I, \$9.9 million to the H-46 Series for a Block Upgrade, \$8.0 million to the H-2 Series for the SH-2F Service Life Extension Program, \$8.6 million to the E-2 Series for Structural Enhancement (\$5.3 million) and Outer Wing Panels (\$3.3 million), and \$1.7 million to the Common Avionics account for the Global Positioning System hardware; and decreases of \$.9 million from the A-6 Series for miscellaneous repricings, \$2.4 million from the H-1 Series primarily due to rephasing of the AH-1 Night Targeting System, and \$7.0 million from the EP-3 Series which resulted from delay of the Sensor Improvement modification.

Aircraft Spares and Repair Parts (-\$103.1 million)

The change in this budget activity results from Congressional reductions of \$72.5 million and other decreases which net \$30.6 million due primarily to realignment of replenishment requirements and initial spares rephasings commensurate with end item adjustments and programmatic changes.

Aircraft Support Equipment and Facilities (+\$1.8 million)

A general reduction of \$1.1 million based on Congressional action was applied to Common Ground Equipment (\$1.0 million) and Other Production Charges (\$.1 million). An additional \$2.9 million was reprogrammed to Other Production Charges for Coast Guard Global Positioning System requirements.

Reimbursable Program (+\$5.0 million)

The increase in the reimbursable program reflects a change in anticipated orders of \$5.0 million over that expected a year ago.

COMPARISON OF FY 1990 FINANCING AS REFLECTED IN FY 1990/91
REVISED PRESIDENT'S BUDGET WITH FY 1990 FINANCING AS SHOWN IN FY 1991 PRESIDENT'S BUDGET

	Financing per FY 1990/91 <u>Revised Budget</u>	Financing per FY 1991 <u>Budget</u>	Increase (+) or Decrease (-)
Program Requirements (Total).....	\$ 8,827,700	\$ 9,304,724	+\$ 477,024
Program Requirements (Service account).....	(8,826,100)	(9,298,124)	(+ 472,024)
Program Requirements (Reimbursable).....	(1,600)	(6,600)	(+ 5,000)
Less:			
Anticipated Reimbursements.....	1,600	6,600	- 5,000
Reprogramming from prior year budget plans.....			
Unobligated balance available from prior year to finance new budget plans.....			
Transferred from other accounts.....		4,725	- 4,725
Add:			
Reduction pursuant to P.L. 101-165.....		12,867	+ 12,867
Transferred to other accounts.....		83,000	+ 83,000
Appropriation.....	\$ 8,826,100	\$ 9,389,266	+\$ 563,166

EXPLANATION OF CHANGES IN FINANCING

The increase in program requirements is the result of Congressional additions of \$550,299,000 over the request to the amount appropriated including distribution of general Congressional reductions of \$12,867,000. Other financing changes include proposed DD1415 Reprogramming Actions transferring \$83,000,000 to Military Personnel, Navy and \$4,725,000 from Procurement, Marine Corps. Higher anticipated reimbursements caused the appropriation's financing to increase \$5,000,000.

COMPARISON OF FY 1989 PROGRAM REQUIREMENTS AS REFLECTED IN FY 1990/91
PRESIDENT'S REVISED BUDGET WITH FY 1989 PROGRAM REQUIREMENTS SHOWN IN FY 1991 PRESIDENT'S BUDGET

	Total Program Requirements per 1990/91 Revised Budget	(In Thousands of Dollars) Total Program Requirements per 1991 Budget	Increase (+) or Decrease (-)
Combat Aircraft.....	\$ 5,918,429	\$ 5,939,076	+\$ 20,647
Airlift Aircraft.....	-	-	-
Trainer Aircraft.....	413,315	414,029	+ 714
Other Aircraft.....	347,632	347,632	-
Modification of Aircraft.....	931,908	951,941	+ 20,033
Aircraft Spares and Repair Parts.....	1,140,424	1,140,424	-
Aircraft Support Equipment and Facilities	561,997	518,303	- 43,694
Reimbursable Program.....	1,591	3,946	+ 2,355
TOTAL FISCAL YEAR PROGRAM.....	\$ 9,315,296	\$ 9,315,351	+\$ 55

EXPLANATION BY BUDGET ACTIVITY

Combat Aircraft (+\$20.6 million)

Changes of a net increase totalling \$20.6 million were accomplished in this budget activity primarily because a DD1415 Reprogramming Action proposing a transfer was denied resulting in \$16.2 million being restored to the F/A-18.

Other increases accomplished through below threshold reprogramings include \$3.8 million to the F-14 for flight test effort; \$2.1 million to the SH-60B and \$9.9 million to the E-2C program for airframe contract definitizations; \$.2 million and \$.6 million to the advance procurement accounts of the AV-8B and the SH-60B respectively to finalize long lead engine and other GFE requirements; and \$.5 million of miscellaneous adjustments to classified programs.

Decreases include the following: \$4.4 million from the AV-8B based on revised support requirements; \$.2 million from the EA-6B program, \$.9 million from the AH-1 program, and \$.6 million from the SH-60F program respectively for slight pricing adjustments; and \$3.4 million, \$2.7 million and \$.5 million from advance procurement accounts for the F-14, SH-60F and E-2C aircraft based on revised long lead requirements.

Trainer Aircraft (+.7 million)

The increase in this budget activity reflects minor pricing adjustments in the T45TS program.

Modification of Aircraft (+\$20.0 million)

Below threshold reprogramming increases netting \$40.2 million include the following: \$1.2 million to the A-4 Series for addition of AN/APX-72 requirements; \$8.8 million to the AV-8 Series for increases to the S,R&M modification; \$.7 million to the F-14 Series for various repricings including addition of AWG-9 Memory Improvement; \$.7 million to the OV-10 Series for the Block Upgrade I (A-D); \$9.9 million to the F-18 Series for Correction of Discrepancies; \$2.8 million to the H-1 Series for a cost increase on the AH-1 Navigation System (\$1.6 million) and addition of the UH-1 APR-43 (\$1.2 million); \$.3 million to the H-2 Series for addition of the SH-2 Upgrade; \$4.5 million to the EP-3 Series for an increase to the CIIOP requirement; \$3.3 million to P-3 Series for various changes primarily an increase to the Update III Block Upgrade; \$2.1 million to the E-2 Series for increased cost of the Block Upgrade I and the Outer Wing Panels; \$.9 million to the Trainer Aircraft account for various repricings; \$2.2 million to the C/KC-130 Series for the Blue Angel conversion (\$2.0 million) and Configuration Standard for the KC-130T (\$.2 million); \$.4 million to the FEWSG Series for increased cost of the AN/ALQ-167 and AN/AST-4 pods; \$1.7 million to the Power Plant Changes program for various engine modification requirements; \$.2 million to the Flight Safety program for emergent safety changes; and \$.5 million to the Common ECM account for AN/ALQ-162 hardware.

Offsetting the above by \$20.2 million were the following decreases: \$3.8 million from the A-6 Series because of several changes, primarily the deletion of the AN/AAS-33A DRS Upgrade; \$4.3 million from the SH-60 Series mostly due to late execution of the Emergency Upgrade; \$10.5 million from the EC-130 Series due largely to deletion of the AFSATOOM/MILSTAR Terminal Update and reduced CVLF requirements; \$.8 million from Cargo and Transport Aircraft Mods due to miscellaneous savings and rephasings; and \$.1 million each from the F-5 Series and the H-53 Series and \$.3 million each from the H-46 Series and the S-3 Series for various miscellaneous changes.

Aircraft Support Equipment and Facilities (-\$43.7 million)

Changes in this budget activity are a net decrease of \$43.7 million resulting mainly from redistribution totalling \$49.1 million to various programs rather than the original congressional lump sum restoral a year ago to the Aircraft Industrial Facilities program based on a policy change reinstating Navy Air Labs to industrial fund financing. Another decrease of \$10.4 million in the Common Ground Equipment line is due to a number of changes primarily in Automatic Test Equipment because of reduced aircraft carrier and contractor requirements.

The Contractor Facilities subline was increased by \$9.4 million for upgrade of a government owned, contractor operated plant for A-12 aircraft assembly and test. The War Consumables account increased \$2.3 million for IMER/ITER, and Special Support Equipment increased \$1.1 million for minor repricings. The Other Production Charges line increased \$4.0 million due to the following: \$1.4 million to the Coast Guard subline for GPS hardware; \$2.3 million to the GFE Production Charges subaccount for NAC Indianapolis to technically support the Common Avionics decentralization effort, and \$.3 million for minor changes in other sublines.

Reimbursable Program (+\$2.4 million)

The increase in the reimbursable program reflects actual orders received of \$2.4 million more than originally budgeted.

COMPARISON OF FY 1989 FINANCING AS REFLECTED IN FY 1990/91
REVISED PRESIDENT'S BUDGET WITH FY 1989 FINANCING AS SHOWN IN FY 1991 PRESIDENT'S BUDGET

	Financing per FY 1990/91 Revised Budget	Financing per FY 1991 Budget	Increase (+) or Decrease (-)
Program Requirements (Total).....	\$ 9,315,296	\$ 9,315,351	+\$ 55
Program Requirements (Service account).....	(9,313,705)	(9,311,405)	(- 2,300)
Program Requirements (Reimbursable).....	(1,591)	(3,946)	(+ 2,355)
Less:			
Anticipated Reimbursements.....	1,591	3,946	-
Unobligated balance available from prior year to finance new budget plans.....			2,355
Transferred from other accounts.....			
Add:			
Unobligated balance available to finance subsequent year budget plans.....		30,600	+ 30,600
Reduction pursuant to P.L. 100-463.....	15,606		- 15,606
Transferred to other accounts.....	86,000		- 86,000
Appropriation.....	\$ 9,415,311	\$ 9,342,005	-\$ 73,306

EXPLANATION OF CHANGES IN FINANCING

The financing of the FY 1989 program reflected in the FY 1991 budget includes \$30,600,000 of unobligated balances carried forward in anticipation of transfer from the appropriation by reprogramming actions of \$20,000,000 to the Shipbuilding and Conversion appropriation, Navy and \$10,600,000 to a classified program. The remainder of the financing is \$3,946,000 of reimbursements (an increase of \$2,355,000 due to actual higher reimbursements than originally anticipated); restoration of \$50,000,000 associated with a proposed transfer out of the appropriation which was denied; approval of a transfer of \$36,000,000 out of the appropriation for overseas station allowance requirements in the Military Personnel, Navy appropriation; and actual budget authority reduction of \$15,606,000 pursuant to P.L. 100-463.

STATUS OF AIRCRAFT MODIFICATION PROGRAMS
FY 1990 MODIFICATION OF AIRCRAFT
PROGRAMS AS OF 30 NOVEMBER 1989
(THOUSANDS OF DOLLARS)

PROGRAM	APPROPRIATED	REPROGRAMING	TOTAL PROGRAM VALUE	TOTAL OBLIGATIONS	TOTAL EXPENDITURES
A-3 SERIES	100	0	100	0	0
A-4 SERIES	6,339	0	6,339	0	0
A-6 SERIES	111,387	(1,161)	110,226	0	0
EA-6 SERIES	26,033	(60)	25,973	0	0
A-7 SERIES	62	0	62	0	0
AV-8 SERIES	100	0	100	0	0
F-4 SERIES	98	0	98	0	0
RF-4 SERIES	100	0	100	0	0
F-14 SERIES	16,038	(36)	16,002	0	0
F-5 SERIES	100	0	100	0	0
ES-3 SERIES	107,966	(248)	107,718	20,300	0
OV-10 SERIES	10,858	9,789	20,647	0	0
F-18 SERIES	4,717	0	4,717	0	0
H-46 SERIES	3,898	12,163	16,061	0	0
H-53 SERIES	29,721	2,351	32,072	0	0
SH-60 SERIES	599	0	599	0	0
VH-60 SERIES	5,852	0	5,852	0	0
H-1 SERIES	48,115	(2,511)	45,604	0	0
H-2 SERIES	24,071	7,926	31,997	0	0
H-3 SERIES	10,333	0	10,333	0	0
EP-3 SERIES	13,752	(7,032)	6,720	0	0
P-3 SERIES	30,725	(71)	30,654	0	0
S-3 SERIES	81,135	(186)	80,949	3,224	0
E-2 SERIES	71,720	8,415	80,135	0	0
TRAINER A/C	2,310	0	2,310	0	0
CARGO & TRANSPORT A/C	1,552	0	1,552	0	0
E-6A SERIES	7,512	0	7,512	0	0
C-130/KC-130 SERIES	3,129	0	3,129	0	0
FEWSG	269	0	269	0	0
POWER PLANT CHANGES	5,959	0	5,959	0	0
MISC. SAFETY CHANGES	999	0	999	0	0
COMMON ECM EQUIPMENT	46,781	(107)	46,674	22,208	0
COMMON AVIONICS CHANGES	1,427	1,700	3,127	0	0
MOD INSTALLATIONS	918,700	(82,950)	835,750	36,054	90
TOTAL B.A. 5	1,592,457	(52,018)	1,540,439	81,786	90

STATUS OF AIRCRAFT MODIFICATION PROGRAMS
FY 1989 MODIFICATION OF AIRCRAFT
PROGRAMS AS OF 30 NOVEMBER 1989
(THOUSANDS OF DOLLARS)

PROGRAM	APPROPRIATED	REPROGRAMING	TOTAL PROGRAM VALUE	TOTAL OBLIGATIONS	TOTAL EXPENDITURES
A-3 SERIES	822	(45)	777	740	49
A-4 SERIES	2,294	1,236	3,530	3,441	33
A-6 SERIES	178,346	(4,605)	173,741	79,196	12,028
EA-6 SERIES	36,784	(154)	36,630	27,969	553
AV-8 SERIES	942	8,733	9,675	6,345	7
ES-3 SERIES	155,275	(767)	154,508	134,518	15,703
F-14 SERIES	33,174	2,020	35,194	29,527	448
F-5 SERIES	62	(62)	0	0	0
OV-10 SERIES	32,825	1,597	34,422	27,787	1,449
F-18 SERIES	94	9,899	9,993	5,828	852
H-46 SERIES	21,064	(1,398)	19,666	18,251	115
H-53 SERIES	14,388	(214)	14,174	9,228	54
SH-60 SERIES	4,501	(4,349)	152	0	0
VH-60 SERIES	1,187	(5)	1,182	0	0
H-1 SERIES	28,961	2,693	31,654	23,432	8,321
H-2 SERIES	5,679	239	5,918	5,063	200
H-3 SERIES	31,609	(172)	31,437	27,155	1,851
EP-3 SERIES	26,498	4,395	30,893	24,799	12,540
P-3 SERIES	131,932	307	132,239	102,927	21,898
S-3 SERIES	135,567	1,243	136,810	126,342	29,494
E-2 SERIES	40,675	1,963	42,638	41,640	713
TRAINER A/C	532	923	1,455	970	5
CARGO & TRANSPORT A/C	1,709	(853)	856	531	56
EC-130 SERIES	12,735	47	12,782	745	0
C/KC-130 SERIES	2,095	2,181	4,276	3,541	82
FEWSG	1,817	434	2,251	2,250	933
VARIOUS	1,025	(4)	1,021	1,002	69
POWER PLANT CHANGES	2,022	1,660	3,682	2,997	743
MISC. SAFETY CHANGES	97	1,092	1,189	45	3
COMMON ECM EQUIPMENT	85,335	53	85,388	50,463	2,389
COMMON AVIONICS CHANGES	447	(46)	401	400	0
TOTAL B.A. 5	990,493	28,041	1,018,534	757,132	110,588

STATUS OF AIRCRAFT MODIFICATION PROGRAMS
FY 1988 MODIFICATION OF AIRCRAFT
PROGRAMS AS OF 30 NOVEMBER 1989
(THOUSANDS OF DOLLARS)

PROGRAM	APPROPRIATED	REPROGRAMMING	TOTAL PROGRAM VALUE	TOTAL OBLIGATIONS	TOTAL EXPENDITURES
A-3 SERIES	969	26	995	986	344
A-4 SERIES	6,149	(234)	5,915	5,893	203
A-6 SERIES	219,478	3,711	223,189	217,867	34,021
EA-6 SERIES	21,274	(4,100)	17,174	15,576	2,731
A-7 SERIES	97	2,454	2,551	1,590	100
AV-8 SERIES	97	(43)	54	0	0
F-4 SERIES	97	72	169	168	4
RF-4 SERIES	97	272	369	356	152
F-14 SERIES	83,334	(5,978)	77,356	76,911	49,686
F-5 SERIES	97	(50)	47	46	0
OV-10 SERIES	1,974	(35)	1,939	1,939	314
F-16N SERIES	5,000	(5,000)	0	0	0
F-18 SERIES	1,995	50	2,045	1,722	36
H-46 SERIES	29,801	(3,944)	25,857	22,915	2,565
H-53 SERIES	22,737	2,808	25,545	24,746	8,060
SH-60 SERIES	14,058	(420)	13,638	13,236	2,237
H-1 SERIES	6,826	604	7,430	5,800	1,426
H-2 SERIES	55,000	6,053	61,053	55,062	16,766
H-3 SERIES	26,229	(4,920)	21,309	18,215	4,236
EP-3 SERIES	47,003	(757)	46,246	42,852	29,343
P-3 SERIES	136,865	3,231	140,096	137,034	58,501
S-3 SERIES	74,772	1,813	76,585	75,205	29,469
ES-3	80,000	(8)	79,992	79,084	43,608
E-2 SERIES	39,639	1,020	40,659	37,480	19,520
TRAINER A/C	1,635	(102)	1,533	1,020	379
EC-130 SERIES	7,367	(7,367)	0	0	0
C-130 SERIES	4,550	(135)	4,415	4,090	645
FEWSG	3,380	0	3,380	3,326	1,188
CARGO & TRANSPORT A/C	2,163	(748)	1,415	1,321	93
VARIOUS	1,004	67	1,071	1,071	116
POWER PLANT CHANGES	3,163	204	3,367	2,973	1,159
MISC. SAFETY CHANGES	823	9,028	9,851	7,342	775
COMMON ECM EQUIPMENT	16,708	1,188	17,896	16,957	8,360
COMMON AVIONICS CHANGES	765	(14)	751	729	257

TOTAL B.A. 5

915,146

(1,254)

913,892

873,512

316,294